

VACCINATIONS AS A PROBLEM OF MEDICALIZATION

MEDYKALIZACJA SZCZEPIEŃ OCHRONNYCH

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A – przygotowanie projektu badania | study design, **B** – zbieranie danych | data collection, **C** – analiza statystyczna | statistical analysis, **D** – interpretacja danych | interpretation of data, **E** – przygotowanie maszynopisu | manuscript preparation, **F** – opracowanie piśmiennictwa | literature review, **G** – pozyskanie funduszy | sourcing of funding

SUMMARY

Background: The process of medicalization as a form of biopower is present in many aspects of human life, including vaccination.

Aim of the study: The study aims to determine social attitudes towards medicalization in the context of vaccination, and to assess the relationship between children's vaccinations and the knowledge and education of their parents.

Material and methods: This survey-based study involved 180 subjects – 141 women and 39 men. The median of age was 28 years. 32.2% of the participants (58) had a medical education and 67.8% (122) non-medical education. 52.78% of people included in the study (95) had at least one child and 47.22% (85) were childless. The study was conducted using the authors' questionnaire followed by the test of knowledge.

Results: Respondents with a high level of knowledge are afraid of vaccination policy and believe that the fact that the state decides on these issues is a violation of human rights. The majority of them do not vaccinate their children. People with medical education vaccinate their children more often than those with non-medical education.

Conclusions: In the context of vaccination, it is clear that the level of the knowledge and the number of vaccinated children are unsatisfactory. Repeated myths about harmfulness of vaccinations and fear of adverse post-vaccination reactions are the reasons, why parents refuse to vaccinate their children. The control of biopolitics over vaccinations is a part of medicalization, which is strongly experienced by individuals with a high level of knowledge. Reliable information provided by a physician could increase the number of parents, who decide to vaccinate their children.

KEYWORDS: medicalization, biopower, biopolitics, vaccination, prevention, anti-vaccination movements

STRESZCZENIE

Wstęp: Proces medykalizacji jako biowładzy i kontroli objął wiele płaszczyzn i sfer ludzkiego życia, w tym w obszar szczepień ochronnych.

Cel pracy: Określenie społecznego odczucia medykalizacji w kontekście szczepień ochronnych oraz ocena poziomu wyszczepialności dzieci w odniesieniu do poziomu wiedzy i wykształcenia rodziców.

Materiał i metody: Badania przeprowadzono wśród 180 osób – 141 kobiet i 39 mężczyzn, mediana wieku wynosiła 28 lat. Wykształcenie medyczne miało 32,2% (58), niemedyczne – 67,8% (122); 52,78% (95) badanych miało co najmniej jedno dziecko, osoby bezdziejne stanowiły 47,22% (85). Zastosowano sondaż diagnostyczny z wykorzystaniem autorskiego kwestionariusza ankiety wraz z testem wiedzy.

Wyniki: Respondenci o wysokim poziomie wiedzy obawiają się polityki szczepień ochronnych oraz twierdzą, że decyzyjność państwa w tej sprawie to łamanie praw człowieka. Większość z nich nie szczepi swoich dzieci. Osoby z wykształceniem medycznym częściej niż osoby z wykształceniem niemedycznym poddają dzieci szczepieniom ochronnym.

Wnioski: W kontekście szczepień ochronnych uwidacznia się niezadowalający poziom wiedzy społeczeństwa i niezadowalający poziom wyszczepialności dzieci. Powielanie mitów na temat szkodliwości szczepień oraz obawa przed niepożądanymi odczynami poszczepiennymi powoduje rezygnację rodziców ze szczepienia dzieci. Kontrola

biopolityki nad procesem wyszczepialności wchodzi w obszar medykalizacji, co silnie odczuwają osoby o wysokim poziomie wiedzy. Dostarczenie rzetelnych informacji w relacji lekarz – rodzic mogłoby spowodować wzrost pozytywnych decyzji o szczepieniu.

SŁOWA KLUCZOWE: medykalizacja, biowładza, biopolityka, szczepienia ochronne, profilaktyka, ruchy antyszczepionkowe.

BACKGROUND

Medicalization has been associated only with an increasing domination of medicine since 1970's. Twenty years later studies on medicalization embraced already a broader sociological and cultural context, thus the term "medicalization" was introduced to the medical terminology for naming various social and cultural issues [1,2]. According to Foucault's (2010), the medicalization means mechanism introducing the biological characteristics of the human species into the politics, turning it into the object used in the strategy of power [3]. This phenomenon rests on economical basis and leads to utilization of medicine to define the health by the categories of risk and material benefits [4]. Application of medical achievements into the control of health condition of the society reflects in the policy of vaccinations. According to the present regulation, the arrangement of vaccination program is based on many foundations - starting with regulations on necessity of prophylaxis, the tasks of doctors, nurses and midwives, ending with legal sanctions in case of when someone refuses to follow imposed rules. An attempt is made to vaccinate as many people as possible, in order to immunize the population and decrease the morbidity, thus preventing epidemia [5]. Medical prevention in the context of vaccinations focuses on reduction of morbidity and eradication of infectious diseases. A maximum increase in utilization of available vaccines is one of the priorities indicated by WHO [5].

AIM OF THE STUDY

The aim of the study was to determine the social impression of medicalization in the context of vacci-

nations and to evaluate the vaccination ration in the context of knowledge and education.

MATERIAL AND METHODS

The study was conducted between May and June, 2014 using a diagnostic survey with the questionnaire elaborated by the authors, including the knowledge test. The test consisted of 9 questions. The participants had to chose the correct answer - Table 1. The study was conducted on 180 people, including 141 women (78.3%) and 39 men (21.7%), median age was 28 (range: 55–19), medical education received 32.2% of participants (58), whereas non-medical education 67.8% of them (122) [Tab. 2]. The statistical analysis was conducted with the IBM SPSS 24.0 program. The distribution of constant variable was performed with the Shapiro-Wilk test. The Pearson's chi-squared test was used in the study. The statistical significance threshold was set at 0,05. The study was financed by the authors.

The knowledge in the study group was assessed using the following levels: no knowledge (0 points), very low level of knowledge (1–4 points), low level of knowledge (5–6 points), and average level of knowledge (7–8 points) high level of knowledge (9 points).

RESULTS

1 of 5 evaluated people vaccinates his/her children according to the vaccination schedule (20.6%, 37), and 42.2% (76) of people, who do not have children at this moment declare that they will vaccinate their children [Tab. 3]. 37.9% (22) of respondents with medical edu-

Table 1. The knowledge regarding medicalization of vaccination

Questions:	Answers:	Questions:	Answers:
How often is the vaccination schedule issued (the schedule indicating when a particular vaccine should be administered)?	Every year.	Vaccination is performed by:	Family doctor
	Every two years.		Health promoter
	Approximately every five years.	Can vaccination cause a partial or total hearing loss?	Yes
	A new schedule is issued only when a change is implemented.		No
The body that qualifies a child for immunization is:	Doctor	Can complications after vaccination lead to the death of a child?	Yes
	Parent		No
	Nurse	Do adverse reaction to vaccination occur in each vaccinated child?	Yes
	Midwife		No
Vaccination is performed by:	Every nurse / midwife	Does the parent have the right to demand that a vaccination to be performed by the other person than the one currently on duty?	Yes
	Nurse / midwife with vaccination course		No
	Family doctor	Vaccinations are mandatory in Poland until the age of	8 years
	Health promoter		15 years
	17 years		
Vaccination is performed by:	Every nurse / midwife		19 years
	Nurse / midwife with vaccination course		

Table 2. Sociodemographic characteristics of the study group

Variable		Overall N (%)	Medical education N (%)	Non-medical education N (%)	Test P
		180 (100.00)	58 (32.22)	122 (67.78)	
Sex:	women	141 (78.33)	46(79.31)	95 (77.87)	0.827
	men	39 (21.67)	12 (20.69)	27 (22.13)	
Age:	X ± SD	7.70	9.33	6.5	0.022
	Me	28	30	27.5	
	Mini-max	19–55	20–55	19–52	
	Q1 – Q3	24–34	26–41.25	24–32.25	
Place of residence:	city	150 (83.33)	42 (72.41)	108 (87.52)	0.007
	village	30 (16.67)	16 (27.59)	14 (11.48)	
Having children:	no	85 (47.22)	27 (46.55)	58 (47.54)	0.9
	Yes	95 (52.78)	31 (53.45)	64 (52.46)	
Number of children:	1 child	49 (51.58)	13 (41.94)	36 (56.25)	0.215
	2 children	35 (36.84)	13 (41.49)	22 (34.38)	
	3 children	7 (7.37)	2 (6.45)	5 (7.81)	
	4 children and more	4 (2.22)	3 (9.68)	1 (1.56)	
Workplace:	Related to medicine	38 (21.11)	35 (60.34)	3 (2.46)	<0.0001
	Unrelated to medicine	138 (76.67)	21 (36.20)	117 (95.90)	
	No answer	4 (2.22)	2 (3.45)	2 (1.64)	
Education:	grammar	0 (0.00)	0 (0.00)	0 (0.00)	0.395
	professional	2 (1.11)	0 (0.00)	2 (1.64)	
	secondary	59 (32.78)	22 (37.93)	37 (30.33)	
	higher	119 (66.11)	36 (62.07)	83 (68.03)	
Vaccinated respondents:	Yes	177 (98.33)	58 (100.00)	119 (97.54)	0.230
	no	3 (1.67)	0 (0.00)	3 (2.46)	

cation declared that they do vaccinate their children. 40.2% (49) of parents with non-medical education do not vaccinate their children. Statistically significant correlation has been shown between vaccination of children or declaration of vaccination and the type of education ($\text{Chi}^2= 19.11; \text{df} = 3; p < 0.001$).

The highest proportion of people, who vaccinated their children presented a low level of knowledge (27.3%, 15) [Tab. 4]. The people, who do not have children but declare that they would vaccinate their children presented a very low level of knowledge (68.4%, 26). The

people, who presented a high level of knowledge do not vaccinate their children. The relationship between vaccination of children and the level of knowledge of their parents was statistically significant ($\text{Chi}^2=34.01; \text{df}=9; p=0.00$).

The decision regarding vaccination was influenced not only by the level of general knowledge but also the knowledge of anti-vaccination movements. As many as 79.7% of parents (47), who do not vaccinate children are aware of the statement presented by anti-vaccination movements ($\text{Chi}^2= 36.199; \text{df} = 3; p < 0.001$).

Table 3. Vaccination according to the vaccination schedule

Variable		Education		Overall	Test p
		Non-medical education	Medical education		
Yes	N	15	22	37	0.00
	%	12.3%	37.9%	20.6%	
No	N	49	10	59	
	%	40.2%	17.2%	32.8%	
I do not have children, but I think that if I had, I would vaccinate them.	N	53	23	76	
	%	43.4%	39.7%	42.2%	
I do not have children, but I think that if I had, I would not vaccinate them.	N	5	3	8	
	%	4.1%	5.2%	4.4%	
Overall	N	122	58	180	
	%	100.0%	100.0%	100.0%	

Table 4. Vaccination according to the vaccination schedule

Variable		Level of knowledge				Overall	Test p
		very low	low	average	high		
Yes	N	8	15	10	4	37	0.00
	%	21.1%	27.3%	15.4%	18.2%	20.6%	
No	N	4	11	32	12	59	
	%	10.5%	20.0%	49.2%	54.5%	32.8%	
I do not have children, but I think that if I had, I would vaccinate them.	N	26	25	21	4	76	
	%	68.4%	45.5%	32.3%	18.2%	42.2%	
I do not have children, but I think that if I had, I would not vaccinate them.	N	0	4	2	2	8	
	%	0.0%	7.3%	3.1%	9.1%	4.4%	
Overall	N	38	55	65	22	180	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

Among the people, who presented a high level of knowledge, 59.10% (13) is afraid of vaccinations [Tab. 5] The overwhelming majority thinks that vaccination policy goes in the wrong direction, which means increased state control over the health of children and adolescents (36.4%, 8). Parents with a very low level of knowledge are not concerned about vaccination regime (71.1%, 27). The relationship between the fear of vaccination and the level of knowledge was detected ($\text{Chi}^2=25.671$; $\text{df} = 12$; $p = 0.012$). The people, who express their concern regarding mandatory vaccinations (35.6%, 21) and adverse post-vaccination reactions (45.8% 27) refuse to vaccinate their children whereas, the parents who vaccinate their children do not express concerns (56.7%, 22). Concerns about adverse post-vaccination reactions affect the decision on vaccinating children ($\text{Chi}^2= 108.249$; $\text{df} = 12$; $p < 0.001$).

The highest percentage of respondents (49.4%, 89) believe that the health care system in Poland does not respect the rights of the patient. This view is expressed by 72.7% of people (16) with high levels of knowledge about vaccinations. People, who believe that patient's rights are respected presented a low level of knowledge (29.1%, 16) ($\text{Chi}^2= 17.256$; $\text{df} = 6$; $p = 0.008$). Patient's rights are not respected in Poland according to 44.8% of people (26) with medical education and 51.6%

(63) with non-medical education. The differences are statistically significant ($\text{Chi}^2= 8.210$; $\text{df} = 2$; $p = 0.016$).

Considering medicalization of vaccinations respondents believed that by means of vaccinations the state cares for the health of the population (33.5%, 60) [Tab. 6]. The major percentage of people, who gave such an answer presented a low level of knowledge (50%, 19). Respondents with a high level of knowledge (54.5%, 12) claimed that mandatory vaccinations are an ordinary example of human rights violation. There was a statistically significant relationship between the perception of medicalization of vaccinations and the level of knowledge of the respondents ($\text{Chi}^2= 8.210$; $\text{df} = 2$; $p = 0.016$).

DISCUSSION

The own studies show that the medicalization process can therefore be considered both positive and negative, and in most cases it is subjectively experienced by the patient [6].

The knowledge of respondents was not satisfactory. Only one out of 12 respondents presented a high level of knowledge on vaccinations. Based on the own studies it can be concluded that respondents would refer to the general practitioner in case of any doubts and a need to extend their knowledge, or they would search

Table 5. Fear of vaccination and adverse post-vaccination reactions.

Variable		Level of knowledge				Overall	Test P
		very low	low	average	high		
No. I was vaccinated and nothing happened to me.	N	18	20	12	2	52	0.012
	%	47.4%	36.4%	18.5%	9.1%	28.9%	
No. I believe that vaccinations are safe.	N	9	7	9	3	28	
	%	23.7%	12.7%	13.8%	13.6%	15.6%	
Yes. The policy of mandatory vaccinations goes in the wrong direction.	N	4	9	12	8	33	
	%	10.5%	16.4%	18.5%	36.4%	18.3%	
Yes. We hear alot about post-vaccination complications these days.	N	5	14	21	5	45	
	%	13.2%	25.5%	32.3%	22.7%	25.0%	
Other:	N	2	5	11	4	22	
	%	5.3%	9.1%	16.9%	18.2%	12.2%	
Overall	N	38	55	65	22	180	
	%	100.0%	100.0%	100.0%	100.0%	100.0%	

Table 6. Do compulsory vaccinations limit people's right to decide about their own health?

Variable		Level of knowledge				Overall	Test P
		very low	low	average	high		
No, I believe that by means of vaccinations the state cares about the health of the society and everyone should obey it.	N	19	20	17	4	60	<0.001
	%	50.0%	37.0%	26.2%	18.2%	33.5%	
No, since such a regulation exists, it apparently has a purpose.	N	9	16	5	1	31	
	%	23.7%	29.6%	7.7%	4.5%	17.3%	
Yes, I think there are attempts to subject us to the top-down procedures.	N	5	5	15	4	29	
	%	13.2%	9.3%	23.1%	18.2%	16.2%	
Yes, I believe this is an obvious violation of human rights.	N	3	13	24	12	52	
	%	7.9%	24.1%	36.9%	54.5%	29.1%	
Other:	N	2	0	4	1	7	
	%	5.3%	0.0%	6.2%	4.5%	3.9%	
Overall	N	38	54	65	22	179	
	%	100%	100.0%	100.0%	100.0%	100.0%	

for needed information on Internet. According to Łopata et al., more than 87.1% of respondents (88) admitted that the doctor did not talk to them about vaccination at all [7]. According to Cepuch et al (2014), information provided by a physician / nurse were considered sufficient by 64% of the respondents (64) [8], because it is important that before the consent or objection the person receives precise knowledge of vaccination, it is the task of the doctor to provide reliable knowledge, which is comprehensive and understandable for people without medical education and to give information about the drug, dosage, and the course of the vaccination [9]. Moreover, the physician should inform about the risk associated with post-vaccination reactions [10]. According to the research conducted by Wojczyk, education in this area is not satisfactory since medical students

show a low level of knowledge about terminology and main definitions related to vaccinations [11]. The medicalization of vaccinations is therefore, not just a medical problem but also a social and legal one.

CONCLUSION

Information on vaccination is still insufficient. This leads to a low level of knowledge in general population and therefore, results in a low number of vaccinated children and adolescence. Everlasting myths and fears of vaccinations and of adverse post-vaccination reactions scare the parents out of vaccinating their children. The control over the policy of vaccinations is a part of medicalization, which is strongly experienced by people with a high level of knowledge.

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