



# Why study Public Health in the COVID-19 pandemic? A qualitative analysis

## Dlaczego warto studiować zdrowie publiczne w czasie pandemii COVID-19? Analiza jakościowa

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### Abstract

**Introduction and Objective.** ‘Public speaking and the art of presentation’ was one of the courses available for the second-year first-cycle students at the faculty of Public Health of the Medical University of Warsaw in the 2020–2021 academic year. As part of the course, the students were asked to deliver a presentation on ‘Why study Public Health in the COVID-19 pandemic?’. The aim of the study was to analyze the opinions of students of Public Health on studying Public Health in the COVID-19 pandemic.

**Materials and method.** The study involved 29 second-year first-cycle students of Public Health at the Faculty of Health Sciences of the Medical University of Warsaw in the 2020–2021 academic year. Women were the vast majority (n=25), 3 students (2 women and 1 man) were foreigners. The mean age in the study group was 21.05 years (SD=0.954; min. 20 years; max. 22 years). Content analysis was performed to analyze the students’ opinions which constituted the research material.

**Results.** The transcript was 9,129 words long, with an average of 336 words (min. 253; max. 497) per student speech. The analysis allowed division of the content into 3 thematic areas and analytical categories: The educational process, organization and course of studies, Distance education and Certainty of finding employment and a stable job immediately after graduation.

**Conclusions.** The students appreciated the current programme of studies in the field of public health at the Medical University of Warsaw, and its practical translation into the challenges related to the COVID-19 pandemic. According to the students, the shift to distance education improved the student-perceived quality of public health education at the Medical University of Warsaw. In the opinion of the students, the outbreak of the coronavirus pandemic improved the image of public health professionals in Poland.

### Key words

public health, distance learning, qualitative analysis, COVID-19 pandemic

### Streszczenie

**Wprowadzenie i cel pracy.** Jednym z przedmiotów realizowanych podczas II roku studiów I stopnia na kierunku zdrowie publiczne w roku akademickim 2020/2021 w Wydziale Nauk o Zdrowiu Warszawskiego Uniwersytetu Medycznego były wystąpienia publiczne i sztuka prezentacji. W ramach realizacji zadań praktycznych studenci zobowiązani zostali do przygotowania prezentacji na temat „Dlaczego warto studiować na kierunku zdrowie publiczne w czasie pandemii COVID-19?”. Celem pracy była analiza opinii studentów na temat studiowania na kierunku zdrowie publiczne w czasie pandemii COVID-19.

**Materiał i metody.** W badaniu wzięło udział 29 studentów II roku studiów I stopnia studiujących w roku akademickim 2020/2021 na kierunku zdrowie publiczne w Wydziale Nauk o Zdrowiu Warszawskiego Uniwersytetu Medycznego. W badanej grupie większość stanowiły kobiety (n=25), 3 studentów (2 kobiety i 1 mężczyzna) to obcokrajowcy. Średnia wieku wyniosła 21,05 roku (SD=0,954; min. 20 lat; max. 22 lata). Do analizy wystąpień studentów zastosowano analizę treści.

**Wyniki.** Transkrypcja zawierała 9129 słów, średnia słów zawartych w wypowiedzi każdego studenta wyniosła 336 (min. 253; max. 497). Przeprowadzona analiza pozwoliła na podział treści na trzy wymiary oraz kategorie analityczne: proces kształcenia, studia online, pewność znalezienia zatrudnienia i stabilnej pracy bezpośrednio po ukończeniu studiów.

**Wnioski.** Studenci docenili aktualny program studiów na kierunku zdrowie publiczne w Warszawskim Uniwersytecie Medycznym oraz jego praktyczne przełożenie na wyzwania związane z pandemią COVID-19. Zdaniem respondentów wybuch pandemii pozytywnie wpłynął na postrzeganie specjalistów zdrowia publicznego w Polsce. Ponadto w opinii badanych zmiana technik i metod kształcenia na formę online pozytywnie wpłynęła na ocenę jakości kształcenia.

### Słowa kluczowe

zdrowie publiczne, kształcenie na odległość, analiza jakościowa, pandemia COVID-19

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## INTRODUCTION

The first students first-cycle (undergraduate) students were enrolled into the Public Health programme at the Faculty of Health Sciences of the Medical University of Warsaw in 2004. When they graduated in 2007, the second-cycle study programme was launched [1]. Currently, due to the lack of educational standards and legal regulations specifying the detailed learning outcomes for the Public Health major in Poland, each university offering studies in this field has autonomy regarding the selection of the profile of studies, creation of the education programme, determination of the learning outcomes, and organization of summer internships [2]. According to the Law on Higher Education and Science of 20 July 2018, Bachelor's degree programmes last for at least 6 semesters, during which the student should obtain 180 ECTS credits and end with the awarding of a Bachelor's degree [3].

In the Faculty of Health Sciences at the Medical University of Warsaw, the studies of the bachelor's degree in Public Health have a general academic profile and are conducted in accordance with the resolution of the Senate, which defines the learning outcomes and the educational programme. The subjects taught are divided into 8 thematic blocks, among which can be distinguished:

- General block.
- Medical basis of Public Health.
- Social basis of Public Health.
- Propedeutics of Public Health.
- Legal and organisational aspects of Public Health.
- Economic aspects of Public Health.
- Evidence-based public health.
- Leadership in Public Health [4].

After the first year of the bachelor's degree, in the academic year 2021–2022, students in the Public Health degree programme could additionally choose one of two study paths: environmental health or digital health. In addition, since the 201–/2018 academic year, the WNoZ WUM's Public Health faculty has been implementing an in-house module, KOP – competences expected by employers, which consists of subjects that develop and strengthen students' soft skills [5].

'Public speaking and the art of presentation' was one of the courses available for the second-year first-cycle students of Public Health at the Medical University of Warsaw in the 2020–2021 academic year [6]. Due to the ongoing COVID-19 pandemic, in the 2020–2021 academic year, this course was carried out with the use of distance teaching methods and the Microsoft Teams online platform [7]. It is a 16-hour long obligatory course for all students, in the form of practical classes for a maximum of 20 students per group (in accordance with Order No. 197 of the Rector of the Medical University of Warsaw of 28 September 2020 on determining the size of student groups) [8]. As part of the course, the students were required to deliver a presentation on 'Why study Public Health in the COVID-19 pandemic?'

## OBJECTIVE

The aim of the study was to analyze the opinions of second-year first-cycle students of Public Health at the Faculty of Health Sciences of the Medical University of Warsaw on studying Public Health in the COVID-19 pandemic.

## MATERIALS AND METHODS

As part of the course, the students were required to deliver a presentation on 'Why study Public Health in the COVID-19 pandemic?' The presentation was to last 3 minutes, to be recorded (e.g. with a smartphone), and sent to the lecturer via the MS Teams platform before the following class. Students' recordings were transcribed in MS Word (MS Office, license of the Medical University of Warsaw) and a qualitative analysis of the submitted presentations was carried out.

The qualitative analysis was performed with the use of the Atlas.ti software (ATLAS.ti Educational Single User License; license of the Medical University of Warsaw). Content analysis was performed to analyze the transcription of students' opinions constituting the research data. The content analysis was carried out in accordance with the 5 stages of content analysis by Szczepaniak [9]:

1. selection of empirical data, with a particular emphasis on its possible layout uniformity, enabling the comparison and juxtaposition of individual texts;
2. repeated analytical reading of texts for the topics and content presented there;
3. creation of a thematic categorization key constituting a structured set of thematic categories in the analysed data;
4. defining categories in the key for a better explanation of how they were established and understood by the researcher;
5. creating tables with citations to ensure access to empirical data, without having to directly access the whole of the published texts.

The study involved 29 second-year first-cycle students (Bachelor's programme) of Public Health at the Faculty of Health Sciences of the Medical University of Warsaw in the 2020–2021 academic year. Among the study participants, women were the vast majority (women n=25; men n=4), 3 students (2 women and 1 man) were foreigners (1 male student from Belarus and two female students from Ukraine). The mean age in the study group was 21.05 years (SD = 0.954; min. 20 years; max. 22 years). The study was conducted in June 2021.

**Ethical considerations.** In the opinion of the Bioethics Committee 'non-interventional studies do not require the opinion of the Bioethics Committee in accordance with Art. 37a Pharmaceutical Law Act (*Journal of Laws 2001*, No. 126, item 1381) [10].

## RESULTS

The analysis included 29 transcripts of student presentations of the second-year first-cycle students of Public Health at the Faculty of Health Sciences of the Medical University of Warsaw. The transcript was 9,129 words long, with an average length of 336 words (min. 253; max. 497) per student speech. Analysis allowed division of the content into 3 thematic content areas and analytical categories:

- I. Scope and content of curriculum.
- II. Distance learning.
- III. Public health image and career.

The thematic categorization key, which is a set of issues, topics and groups of topics discussed in the analyzed texts, was organized as follows:

**I. Scope and content of curriculum**

1. Course content.
2. From theory to practical examples of the implementation of particular solutions in the COVID-19 pandemic.
3. Course content related to the COVID-19 pandemic.
4. Teaching staff involved in the Polish healthcare system management in the COVID-19 pandemic.
5. A wide range of student internships available.

**II. Distance learning**

1. High quality of education.
2. The ability to stay at home and not be exposed to infection.

**III. Public health image and career**

1. Lack of public health knowledge in society and underestimating graduates in the labour market before COVID-19 pandemic
2. The work of public health specialists gained recognition in the COVID-19 pandemic.
3. Future after college.

**Tables with quotes.** Contrary to the current research practice and the belief that it is necessary to provide the reader with the most complete and comprehensive insight into the empirical data, Szczepaniak suggests presenting only selected, and the most characteristic, significant quotes corresponding to particular categories in the thematic categorization key, while at the same time trying to demonstrate the maximum diversity of approaches to presenting the subject matter. Each Table contains a description and an interpretation of the citations in the context of the entire research data [9].

The public health students at the Medical University of Warsaw greatly appreciated how their studies were conducted in the COVID-9 pandemic. They emphasized the importance of the curriculum content and a potentially wider range of career prospects. They also listed the benefits of distance learning and evaluated them in the context of broader opportunities for self-development.

**Table 1.** Scope and content of curriculum

Thematic Categorization Key	Student quotes
From theory to examples of the implementation of particular practical solutions in the COVID-19 pandemic	"The public health educational programme is a relatively new field of study, it is future-oriented, though. This educational programme brings together medical, social and economic sciences."
	"Public health students gain knowledge in various fields, such as social sciences, management, law, or epidemiology."
	"This course is incredibly comprehensive. It discusses topics related to our life, the lives of other people, including healthcare organizations and the relationship between our physical health and our well-being."
	"This educational programme also gives us the opportunity to develop, attend interesting lectures, interesting courses and classes ..."
	"We are also learning economics so that we can assess how the pandemic affects the economy."
	"... thanks to what I have learnt in this educational programme, I am trying to persuade my patients to follow the restrictions now in force, but also explain to my relatives and friends how to behave and that the pandemic restrictions should be respected."
	"We have learnt what to do to ensure that quarantine and isolation are successful and properly carried out."
	"Now we learn from mistakes, and when in a few years time we are in charge of the health care system or the ministry of health, we will be able to draw from the mistakes that the authorities now make, and if another epidemic occurs, we will be able to prevent them."
	"... When the first restrictions were implemented, I was prepared for them, because I knew how viruses attack and how it all spreads, so I knew to wear a face mask and to disinfect hands".
	"While in this educational programme, I have the opportunity to learn how to effectively protect myself against the virus."
Course content related to the COVID-19 pandemic	"... there is a growing number of so-called fake news, i.e. false information. A public health student will easily be able to tell authentic news from false news. "
	"I believe that it is worth studying public health, especially now during the pandemic, as this can help us to understand the processes currently taking place, e.g. during classes in Epidemiology or the Basics of Sanitary and Epidemiological Supervision, we learned about quarantine and isolation, thus we know the difference between these two concepts... "
	"Those of us who are perceptive will notice that I have used two different words: pandemic and epidemic, and this is the first reason why it is worth studying public health - to be able to distinguish between a pandemic and an epidemic."
	"... for sure, in our micro- and macro-economics classes we have learned to understand the current financial situation in our country, but also worldwide".
	"... in psychology classes, we have learnt about the possible impact of COVID-19 restrictions on a person's mental health."
Teaching staff involved in the Polish healthcare system management in the COVID-19 pandemic	"The coronavirus outbreak is the first large epidemic in our country that public health students can observe. As far as our profession is concerned, I think this is a unique opportunity, because we can observe live events unfold and not learn from films or earlier documents, but actually learn from what is happening around us ... "
	"These studies gave me the opportunity to obtain reliable information regarding vaccinations or sanitary procedures, among others."
	"... when it comes to the pandemic, it was probably the course in health promotion that helped me the most, although classes in epidemiology provided us with information on the number of infections in a given region or country, the number of deaths, unfortunately, and, for example, cost management."
	"... our lecturers gave us answers to the questions that bothered us".
A wide range of student internships available	"Many of our lecturers also attend meetings where decisions are made about what to do next."
	"While studying at this faculty, we have the opportunity to meet public health specialists, epidemiologists and other lecturers who provide us with knowledge on how to protect ourselves against the virus during the coronavirus pandemic."
	"... when looking for student internships, there is now a wider range of options as many healthcare facilities are now looking for public health students to do an internship or volunteer service."

Source: our own study

**Table 2.** Distance education

Thematic Categorization Key	Student quotes
High quality of education.	"I think the main advantage is that all the classes are online. This does not change the fact that we learn the same things and with the same quality as if we were at the university premises".
	"The pandemic has forced us to go into distance or hybrid learning, but because we learn from home, we have slightly more time to learn and broaden our knowledge on our own."
	"Due to the fact that we have online classes all the time, that is in front of the webcam, we are also learning to speak in front of the camera and in front of the public, for example when delivering simple presentations".
The possibility to stay at home and not to be exposed to infection.	"I haven't observed the quality of education to decrease due to taking part in online classes."
	"It is an advantage that were at home. We do not expose ourselves or our loved ones to infection. We don't have to rent a flat or a place in a residence hall. "
	"As a commuter, I really appreciate the time saved on transport, as well as the money that I would have spend on fuel and the city travel card."
	"... it is a big advantage is that the classes are held online, so many of us do not need to live in Warsaw or pay for an apartment, and still have the opportunity to study online ...".

Source: our own study

**Table 3** Public health image and career

Thematic Categorization Key	Student quotes
Lack of public health knowledge in society and underestimating graduates in the labor market before COVID-19 pandemic	"... In Poland, this study programme used to be niche-oriented. As, for example, I did not encounter much information about the faculty of public health. There wasn't much about it on TV or in any other news source. "
	"Before the pandemic, this faculty was undervalued, most people did not know who a public health specialist is and what is it that they do."
	"...so far, public health was an unheard-of study programme. People did not know what it was about, what it is that the students learn and where they can find employment afterwards".
The work of public health specialists gained recognition in the COVID-19 pandemic	"... now you can see more public health experts and specialists, their opinions are definitely important and taken into account by a large audience."
	"...the current situation made employers look at public health specialists differently and the number of job offers on the market has really increased".
	"...public health specialists are needed, especially at such a difficult time as it is now."
	"Judging by the overload of the NHF telephone system and problems with getting through to local sanitary and epidemiological stations, it can be assumed that there is already a demand for people with such education. They would help to improve the functioning of these institutions. "
	"This educational programme allowed me to find a job in the public healthcare sector."
	"... Students who graduate from the faculty of public health have a great opportunity for further development. They can work in various institutions such as the ministry of health, the WHO, sanitary and epidemiological stations, or in public and private hospitals."
	"...this educational programme is especially important and it is the future for our world."

Source: our own study

## DISCUSSION

The outbreak of the COVID-19 pandemic revealed the shortcomings of healthcare systems, both in Poland and worldwide. No system was prepared for the sudden emergence of such a big crisis [11].

During the COVID-19 pandemic, special attention was paid to the role played by public health specialists in the healthcare system. In this study, students were of the opinion that, as a field of knowledge, public health had been greatly undervalued in Poland. This is confirmed by numerous publications. In *Health Alert 2*, Golinowska et al. enumerate many problems observed in the field of public health on a daily basis. Firstly, educational public health programmes are not regulated by law, which would help to determine the place and role of public health specialists in the healthcare system [2]. There were hopes that the Public Health Act of 2015 would solve this issue as it extended the scope of public health rights and indicated the responsibility of the state for health promotion. Unfortunately, the methods and means to achieve the above-mentioned objectives were not specified

[12]. As a result, public health remains a highly underfunded and undervalued area when taking into consideration the benefits it may bring to the healthcare sector.

The lack of public health institutions and facilities is yet another problem. This is a major limitation to the healthcare system in Poland which does not have a modern organizational structure. There are two central public healthcare institutions: The National Sanitary Inspectorate and the National Institute of Public Health/National Research Institute; nevertheless, both centres operate with no clearly defined competences regarding cooperation, with an imprecise level of autonomy and an unregulated obligation to cooperate with governmental or local authorities [2]. The COVID-9 pandemic exposed the unused potential of the National Institute of Public Health, for example, by delegating epidemiological reports to the National Institute of Cardiology [13]. In addition, the pandemic has shown negligence in sanitary inspection structures, which operate at an inadequate rate of employment and with a low access to advanced digitization processes [14].

The students participating in study spoke positively about the curriculum content of their study programmes, and

appreciated the fact that many of their lecturers, employees of the Medical University of Warsaw, were experts speaking in the media on the topics related to the COVID-19 pandemic. Thanks to this, they became eyewitnesses of the fight against the pandemic and had the opportunity to observe actions undertaken at its subsequent stages. At this point, it is worth emphasizing that, according to study participants, the general academic profile of the public health programme at the Medical University of Warsaw does not fully allow exploration of the practical aspect of education. More courses should be introduced into the curriculum, enabling students a hands-on approach to the practical aspects of the topics discussed in theory, and to create conditions for the acquisition and development of soft skills required by employers. The educational programme at the University of Maastricht in the Netherlands may be considered an example of a modern approach to public health education. During the academic year, students participate in practical classes organized in healthcare system units. During meetings in small groups, they observe what the work in a given institution looks like, learn about its structure, legal regulations and tasks that it performs on a daily basis. Moreover, trips are organized for students to other European Union countries, e.g. Poland, so that they can understand the functioning of the healthcare system in a given country. Moreover, once a semester, students choose a course they are interested in and 70% of them use this opportunity to visit another university in Europe [15].

Another aspect of education that the study participants appreciated was distance learning, resulting from restrictions imposed by the government in connection with the COVID-19 pandemic. Under the regulation of 23 March 2020, the Minister of Science and Higher Education limited the functioning of universities in Poland and suspended education in first- and second-cycle studies, postgraduate studies, doctoral studies and other forms of full-time education [16]. Thus, all tertiary education institutions were required to reorganize the method of teaching. Public health students at the Medical University of Warsaw agreed that after the implementation of distance education, they did not experience a decrease in the quality of education. Moreover, they emphasized the fact that thanks to distance learning they had more time for self study and that they learned new skills, e.g. the ability to speak in public in front of the camera. Similar results may be seen in the research related to the opinion of students on online teaching, which was carried out at many universities in Poland. At the Białystok University of Technology in Poland, almost 70% of respondents were satisfied with distance education [17]. Most students of the University of Technology and Humanities in Radom, also in Poland, also rated online teaching favourably [18], and students from the Adam Mickiewicz University in Poznań, Poland, claimed that compared to the previous academic year, the quality of education had not changed much and was still high [19].

What might be of concern is that in all the above-mentioned studies, the respondents unanimously pointed to inadequate preparation of academic teachers to conduct online classes [17–19]. According to the authors of this study, good teaching practice now and in the future should involve training courses for the academic staff, aimed at developing and refining their digital competences, as well as broadening the knowledge of lecturers on various forms of online teaching.

In the current study, the students rated positively not only the quality of education during on-line studies, but they also pointed to several other aspects of the shift to distance learning important to them, e.g. the possibility of staying at home and significantly reducing the risk of infection. Economic aspects were also listed as important, e.g. no need to rent a flat or reducing commuting. A nationwide student opinion poll carried out by the FLOW research centre (n=1232) showed that the vast majority of respondents would not have come to the cities where they study [20]. Similar attitudes were presented by the students of the Maria Grzegorzewska University in Warsaw. No need to travel to the university campus, time savings, better conditions for deep work, and less stress or the convenience of distance learning, are just some of the advantages of on-line education indicated by the students of the Maria Grzegorzewska University [21].

All of the above arguments lead to the conclusion there is superiority in on-line education over classes at university premises in some aspects. Therefore, in the author's opinion, it is worth discussing whether not to retain some distance learning, e.g. online lectures, not only among public health students of the Medical University of Warsaw, but also at other universities. Nonetheless, it should be emphasized at this point that the public health curriculum consists mainly of theory-based courses. Distance education is not possible at all educational programmes. Nursing, midwifery and medicine students rated distance learning negatively due to the lack or limitation of practicals preparing them for the profession [22–24].

The public health students of the Medical University of Warsaw also noticed a wider choice of opportunities for summer internships. This is related to the growing social awareness about the knowledge and competences of public health students. Already at the very beginning of the pandemic, several Polish medical universities encouraged public health students to join efforts to fight COVID-19 through, e.g. volunteering service in healthcare facilities or assistance in telephone/e-mail service to patients [25–26].

As the study participants rightly noted, the outbreak of the pandemic may positively affect the image of public health professionals and thus create more jobs in health-related sectors. Experts point to the role of healthcare professionals in relieving the healthcare system of the extra burden. The potential workplaces include healthcare units, local government units, the State Sanitary Inspection or governmental authorities, among others. There is also a possibility of employing public health graduates as healthcare assistants, medical assistants or support staff in the treatment process who would deal with completing and organizing medical record workflow, as well as improving IT systems in healthcare facilities [27]. Moreover, in a study on the labour market in the COVID-19 pandemic, Szukalski points to the emergence of new professions in Italy, for which public health specialists would be best qualified, e.g. epidemic compliance specialists or COVID-19 managers [28]. The experiences of other countries also confirm that the profession of a public health specialist is gaining more importance on the labour market [29]. Therefore, there is a clear need to regulate the profession of a public health specialist in Poland, to specify its professional qualifications and to create a database of potential jobs.

## CONCLUSIONS

The students appreciated the current programme of studies in the field of public health at the Medical University of Warsaw and its practical translation into the challenges related to the COVID-19 pandemic. According to the students, the shift to distance education improved the student-perceived quality of public health education at the Medical University of Warsaw. In the opinion of the students, the outbreak of the coronavirus pandemic improved the image of public health professionals in Poland.

## REFERENCES

- Warszawski Uniwersytet Medyczny. Uchwała nr 50/2002 Senatu Akademii Medycznej w Warszawie z dnia 28 października 2002 r. w sprawie: uruchomienia studiów w Wydziale Nauki o Zdrowiu. Online <https://ssl.wum.edu.pl> (access: 2021.10.13)
- Golinowska S, Kowalska-Bobko I, Sowada C, Włodarczyk WC, Woynarowska B, Zabdyr-Jamroz M. Alert zdrowotny 2: Zdrowie Publiczne w świetle epidemii Covid-19. 2020. Online <https://oees.pl/alerty-eksperckie/> (access: 25.06.2022)
- ISAP – Internetowy System Aktów Prawnych. Ustawa Prawo o Szkolnictwie Wyższym i Nauce (Dz.U. 2018 poz. 1668). 2018. Online <https://isap.sejm.gov.pl/> (access: 25.06.2022)
- Uchwała nr 25/2021 Senatu Warszawskiego Uniwersytetu Medycznego z dnia 30 sierpnia 2021 r. w sprawie ustalenia programu studiów stacjonarnych i niestacjonarnych drugiego stopnia na kierunku Dietetyka oraz Zdrowie Publiczne dla cyklu kształcenia rozpoczynającego się od roku akademickiego 2021/2022. wum2021. Online <https://ssl.wum.edu.pl> (access: 25.06.2022)
- Wydział Nauk o Zdrowiu WUM. Program studiów na kierunku Zdrowie publiczne 2021/2022. wnoz2021. Online <http://wnoz.wum.edu.pl/> (access: 25.06.2022)
- Wydział Nauk o Zdrowiu, Warszawski Uniwersytet Medyczny. Program studiów I stopnia na kierunku Zdrowie publiczne w Wydziale Nauk o Zdrowiu Warszawskiego Uniwersytetu Medycznego. Online <http://wnoz.wum.edu.pl/pl/content/ksza%C5%82cenie-na-kierunku-zdrowie-publiczne> (access: 2021.10.13)
- Warszawski Uniwersytet Medyczny. Zarządzenie nr 193/2020 Rektora Warszawskiego Uniwersytetu Medycznego z dnia 24 września 2020 r. w sprawie organizacji zajęć na studiach, studiach doktoranckich, w szkole doktorskiej, studiach podyplomowych, kursach i szkoleniach oraz organizacji zaliczeń i egzaminów, w semestrze zimowym roku akademickiego 2020/2021 w związku z epidemią COVID-19. Online <https://ssl.wum.edu.pl> (access: 2021.10.13)
- Warszawski Uniwersytet Medyczny. Zarządzenie Nr 197/2020 Rektora Warszawskiego Uniwersytetu Medycznego z dnia 28 września 2020 r. w sprawie ustalania liczebności grup studenckich na zajęciach dydaktycznych. Online <https://ssl.wum.edu.pl> (access: 2021.10.13)
- Szczepaniak K. Zastosowanie analizy treści w badaniach artykułów prasowych. *Acta Universitatis Lodzianis. Folia Sociologica*. 2012; 42:83–112.
- Komisja Bioetyczna Warszawskiego Uniwersytetu Medycznego. Online <http://komisja-bioetyczna.wum.edu.pl> (access: 2021.10.02)
- Niżnik J. Wpływ COVID-19 na systemy ochrony zdrowia w Czechach i w Polsce. *Horyzonty Polityki*. 2021; 12(40):133–155. doi: <https://doi.org/10.35765/HP.2132>
- Internetowy System Aktów Prawnych. Ustawa z dnia 11 września 2015 r. o zdrowiu publicznym. Dz.U. 2015. poz. 1916. Online <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=wdu20150001916> (access: 2021.10.13)
- Internetowy System Aktów Prawnych. Rozporządzenie ministra zdrowia z dnia 7 kwietnia 2020 r. w sprawie Krajowego Rejestru Pacjentów z COVID-19. Dz.U.2020, poz. 625. Online <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20200000625> (access: 2021.10.13)
- Golinowska S, Zabdyr-Jamroz M. Zarządzanie kryzysem zdrowotnym w pierwszym półroczu pandemii COVID-19. Analiza porównawcza na podstawie opinii ekspertów z wybranych krajów. *Zdrowie Publiczne i Zarządzanie*. 2020; 18(1):1–31. <https://doi.org/10.4467/20842627OZ.20.001.12655>
- Maastricht University. Online <https://www.maastrichtuniversity.nl> (cited 2021.10.12)
- Internetowy System Aktów Prawnych. Rozporządzenie Ministra Nauki i Szkolnictwa Wyższego z dnia 23 marca 2020 r. w sprawie czasowego ograniczenia funkcjonowania niektórych podmiotów systemu szkolnictwa wyższego i nauki w związku z zapobieganiem, przeciwdziałaniem i zwalczaniem COVID-19. Dz.U. 2020, poz. 511. Online <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20200000511> (access: 2021.10.10).
- Olszyńska P, Kozłowska J, Dragun Ł. Kształcenie zdalne na Politechnice Białostockiej w ocenie studentów – zastosowanie narzędzi segmentacji rynku do analiz danych ankietowych. *Akademia Zarządzania*. 2021; 5(1):135–152.
- Gagaćka M, Sałata E. Kompetencje nauczycieli i wykładowców w procesie edukacji zdalnej – perspektywa studentów. *Edukacja ustawiczna dorosłych*. 2020; 4:39–54. doi: <https://doi.org/10.34866/8ns5-tz47>
- Uniwersytet Adama Mickiewicza. Sekcja Ewaluacji Procesu Kształcenia. Opinie studentów na temat kształcenia na odległość 2019/2020. Online <https://historia.amu.edu.pl/> (access: 2021.10.13)
- Muda R. Jak studenci postrzegają nauczanie zdalne? Ogólnopolskie badanie opinii studentów na temat nauczania zdalnego. *Pomorski Uniwersytet Medyczny*. Online <https://www.pum.edu.pl/> (access: 2021.10.13)
- Romaniuk MW, Łukasiewicz-Wielba JT. Raport z badań. Zdalna edukacji kryzysowa w APS w okresie pandemii COVID-19. Z perspektywy rocznych doświadczeń. *Intl Journal Of Electronics And Telecommunications*. 2021; 67(2):211–227. doi: <https://doi.org/10.24425/ijet.2021.135968>
- Ramos-Morcillo AJ, Leal-Costa C, Moral-Garcia JE, et al. Experiences of Nursing Students during the Abrupt Change from Face-to-Face to e-Learning Education during the First Month of Confinement Due to COVID-19 in Spain. *J. Environ. Res. Public Health*. 2020; 17:1–15. doi: <https://doi.org/10.3390/ijerph17155519>
- Luyben A, Fleming V, Vermeulen J. Midwifery education in COVID-19 time: Challenges and opportunities. *Midwifery*. 2020; 89(102776). doi: <https://doi.org/10.1016/j.midw.2020.102776>
- Choi B, Jegatheeswaran L, Minocha A, et al. The impact of the COVID-19 pandemic on final year medical students in the United Kingdom: a national survey. *BMC Medical Education*. 2020; 20(206):1–11. doi: <https://doi.org/10.1186/s12909-020-02117-1>
- Tumidajewicz A. Koronastop, czyli studenci walczą z pandemią. *Gazeta Uczelniana Wrocławskiego Uniwersytetu Medycznego we Wrocławiu*. Online <https://www.umw.edu.pl/gu-koronastop-studenci-walczą-z-pandemia> (access: 2021.10.13)
- Warszawski Uniwersytet Medyczny. Wolontariat studentów. Online <https://wolontariat.wum.edu.pl/> (access: 2021.10.13)
- Bociąga-Jasik M, Domagała A, Gaciong Z, et al. Alert zdrowotny 4: Zawody medyczne i inne zawody ochrony zdrowia w świetle pandemii COVID-19. Online <https://oees.pl/alerty-eksperckie/> (access: 2021.10.13)
- Szukalski P. Polski rynek pracy w cieniu COVID-19. Obraz w mediach zajmujących się problematyką gospodarczą. *Rynek Pracy*. 2020; 4(175):6–15.
- Trevino-Reyna G, Czabanowska K, Haque S, et al. Employment outcomes and job satisfaction of international public health professionals: What lessons for public health and COVID-19 pandemic preparedness? Employment outcomes of public health graduates. *Int J Health Plann Mgmt*. 2021; 36(S1):124–150. doi: <https://doi.org/10.1002/hpm.3140>