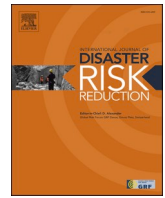




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Medical students as the volunteer workforce during the COVID-19 pandemic: Polish experience

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ABSTRACT

In response to the COVID-19 pandemic medical students in different countries were mobilized to support healthcare systems during the emergency. This study presents the experience of 580 students of a single medical university in Poland who served as volunteers at different healthcare units during the first six months of the first case being recorded in the country (March–September 2020). The mean \pm SD hours and days spent on volunteering in the studied group were 52 ± 36 h and 144 ± 126 d, respectively, the collective number of worked hours amounted to 83,460 h. Compared to other fields of study students of medicine engaged in volunteering for more hours and for more days. The main tasks performed by the surveyed group included triage, servicing call-centers for patients and working at the admission ward, hospital clinics, emergency departments and diagnostic labs. The level of fear at the beginning of volunteering was relatively low in the studied group and did not increase over the course. The majority of students received positive feedback from families, friends, patients and healthcare workers, revealed a high level of satisfaction from volunteering (also when experiencing COVID-19-related prejudice), while gaining professional experience and a sense of giving real aid were among the most frequently indicated benefits. The results of the present study demonstrate that although medical students are not essential workers in response to the COVID-19 pandemic, they can be of real assistance to healthcare systems during times of emergency, and should be considered as such in the future in case such a need arises again.

1. Introduction

The outbreak of the novel coronavirus disease (COVID-19) in December 2019 that later turned into a pandemic has posed a tremendous challenge to different healthcare branches [1–3], and the immediate need to implement a sanitary regime and impose nationwide quarantines in a number of countries. This has led to a significant economic loss and a reorganized life for approximately 4 billion people under lockdown [4,5]. At the same time, the occurrence of the new infectious disease has caused an increase in public anxiety and panic, further strengthened by fearful media headlines and reports as well as unsupported claims and fake news circulating mainly through online social media [6–8].

Universities, similarly to schools, have also faced closures and have had to switch to remote teaching. In many instances this has been a challenge for both students and lecturers, particularly in the earliest

phase of COVID-19 spread in various countries [9,10]. At the same time, students, particularly medical students, were mobilized to voluntarily support the healthcare system in response to the COVID-19 crisis [11,12]. Although such mobilization has been presented and discussed in the literature [12–15], to the best of our knowledge, there is no data on students' experience with volunteering during the COVID-19 pandemic.

Here, we present the experience of Polish medical students at Poznan University of Medical Sciences (PUMS) who served as volunteer workers during the first half-year from the moment when the initial case of COVID-19 was confirmed on March 4, 2020 in Poland. The official closure of Polish universities was imposed on 11 March, while recruitment was initiated at PUMS on 12 March following a call from the Ministry of Health. Until the beginning of September 2020, a total of 1267 students (over 10% of all university students) were recruited and completed volunteer work in hospitals, primary care clinics, diagnostic laboratories, pharmacies, and other units related to healthcare. The

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PUMS is the most important medical academic unit in the region of Greater Poland, with four faculties, over 1100 researchers, an annual budget of approx. 77 million USD, and six university hospitals, with over 100 thousand patients hospitalized annually. On September 1, 2020, the cumulative number of confirmed COVID-19 cases in Poland and the region of Greater Poland was 270,189 and 5729, respectively, with 35,491 and 225 recorded deaths, respectively.

The main aim of our study was to characterize the general profile of volunteers, describe the body of work they achieved in fighting COVID-19, explore the fears and challenges they had to experience, evaluate whether they felt the volunteer induction and their personal safety was taken care sufficiently, report the frequency of SARS-CoV-2 testing during volunteering, and assess the level of satisfaction and benefits arising from the undertaken voluntary work. More specifically, we tested hypotheses whether: 1) the length and volume of volunteering were related to the year of study and field, 2) fear and satisfaction related to volunteering differed depending on the time of recruitment and demographic characteristics, 3) an initial fear in students changed over the course of volunteering, 4) the student's decision to volunteer was met with worries by their families, relatives and partners, 5) volunteering students were a subject to prejudice/discrimination during volunteering period and whether it was associated with moments of doubts over the continuation of their activity and level of satisfaction, 6) volunteers received positive feedback and whether it was related with length of volunteering and moments of doubts over the continuation, and 7) satisfaction from volunteering was associated with its length and volume, and demographic factors of students. All in all, this enabled to provide a broad perspective on the experiences and characteristics of medical students as a volunteer workforce during the COVID-19 pandemic in Poland.

2. Material and methods

2.1. Survey

To explore the experience of medical students volunteering during the COVID-19 pandemic in Poland an anonymous, online survey based on a self-designed, structured questionnaire was conducted. The survey was active in September 2020. Invitations to complete the questionnaire (with two consecutive reminders) were dispatched via e-mail to 1267 students of Poznan University of Medical Sciences, Poland, who had volunteered. The approximate time to complete the questionnaire was 10–15 min. Inclusion criteria (verified by the answers given to the corresponding survey questions) were: studying at PUMS and engagement in voluntary work during the COVID-19 pandemic under the auspices of the PUMS in the March–September 2020 period.

The questionnaire employed in the present study aimed to assess:

1. The general characteristics of the volunteering performed during the COVID-19 pandemic, including the number of working days and hours, place of volunteering and main tasks.
2. The level of fear during the volunteer work (using a 5-point Likert-type scale, where 1- no fear, 5 - a very high level of fear), primary reasons behind it, changes over the course of volunteer work, and worries over the safety and health of the volunteers expressed by family, friends and partners.
3. The organizational aspects of volunteering: volunteer induction and personal safety of students.
4. The frequency of testing for SARS-CoV-2 during volunteering.
5. The sense of safety during the volunteer work, support from principals, and frequency of testing for SARS-CoV-2 nucleic acids.
6. The reaction of the social environment to volunteering, including prejudiced behaviors and positive feedback.
7. The level of satisfaction from volunteering (using a 5-point Likert-type scale, where 1- no satisfaction, 5 – a very high level of satisfaction) and the main benefits of serving as volunteers.

The demographic data collected through the survey included age, gender, place of living, field of medical study, and year of study. Since it was previously reported that personal traits might significantly influence risk-taking [16], the selected personality traits were self-identified by students being able to choose one of two opposite characteristics that suited them best. Based on the list provided by DeNeve and Cooper [17]; the following eight pairs of traits were given for selection: introversive/extroversive, optimistic/pessimistic, confident/shy, curious/uninquisitive, sensitive/insensitive, calm/aggressive, trustful/conscious, and social/antisocial.

2.2. Statistical analysis

The statistical analysis was performed with Statistica v. 13.3 (StatSoft USA). Because the ordinal scale data (age) did not meet the assumption of Gaussian distribution while the level of fear and satisfaction was measured by the ordinal Likert-type scale, non-parametric methods were applied. To analyze the difference between the two groups the Mann-Whitney *U* test was employed. The correlations were assessed with Spearman's correlation coefficient. Differences in dichotomous data were evaluated by Pearson's χ^2 test. A p-value of $p < 0.05$ was considered as statistically significant.

3. Results

3.1. The studied group of volunteers

The studied group consisted of 580 students of PUMS who engaged in volunteer work during the COVID-19 pandemic between March and September 30, 2020. The power calculation indicated that this sample would give a margin error of 3% at the confidence level of 95%. The

Table 1

The demographic characteristics of the studied group of medical student volunteers ($n = 580$).

Age (years)	Mean \pm SD (min–max)	22.4 \pm 2.0 (19–35)
Gender	n (%)	124 (21.4)
Male		450 (77.6)
Female		6 (1.0)
Not specified		
Field of study		360 (62.1)
Medicine		220 (37.9)
Others (12)		
Year of study		379 (65.3)
First-third		201 (34.7)
Fourth-sixth		
Place of living		343 (59.1)
Urban > 500,000 residents		40 (6.9)
Urban 250,000–500,000 residents		20 (3.4)
Urban 100,000–250,000 residents		96 (16.6)
Urban <100,000 residents		81 (14.0)
Rural		
Personality traits	n/n (%/%)	322/258 (55.5/44.5)
Extroversive/Introversive		580/240 (57.9/42.1)
Optimistic/Pessimistic		268/318 (45.2/54.8)
Confident/Shy		478/102 (82.4/17.6)
Curious/Uninquisitive		449/131 (77.4/22.6)
Sensitive/Insensitive		432/148 (74.5/25.5)
Calm/Aggressive		302/278 (52.1/47.9)
Trusting/Conscious		388/192 (66.9/33.1)
Sociable/Unsociable		

demographic breakdown of the surveyed students is presented in Table 1. Most of the surveyed were female and inhabited urban areas. The surveyed volunteers were mostly students of medicine (62.1%) with the rest studying nursing (10.0%), dentistry (5.5%), medical analytics (4.7%), midwifery (4.1%), electroradiology (3.4%), pharmacy (2.9%), physiotherapy (2.1%), emergency medical service (1.9%), medical biotechnology (1.6%), public health (0.7%), cosmetology (0.7%) and occupational therapy (0.3%). The investigated students represented all 6 years of study: first (14.3%), second (22.2%), third (28.1%), fourth/first postgraduate master's (17.1%), fifth/second postgraduate master's (11.7%) and sixth (5.9%).

The predominantly represented personality traits in the surveyed group included curiosity, sensitiveness, calmness and sociability while aggressive, insensitive and uninquisitive personalities were the least frequent (Table 1).

3.2. General characteristics of volunteering

The surveyed students were engaged in a variety of tasks performed at or for different medical units, such as academic and municipal hospitals, primary healthcare centers, pharmacies, swab collection points, diagnostic laboratories and sanitary-epidemiological stations. The most frequent tasks included patient's triage, operating the patient call-centers, helping medical professionals in admission wards, hospital clinics, emergency departments and providing an administrative service in COVID-19 diagnostic laboratories. A significant share of students (41.7%) were engaged in more than one task listed in Fig. 1, with a maximum of 5 tasks delivered by 1.7% of volunteers.

The mean \pm SD (min-max) days of volunteering and worked hours in the studied group was 52 ± 36 (1–193) and 144 ± 126 (4–1800), respectively. The cumulative number of hours worked by the surveyed volunteers accounted for 83,460 h. Students of medicine ($n = 360$) volunteered significantly more than students representing other fields of study ($n = 220$) – mean \pm SD duration of volunteering in these two groups was 56 ± 36 and 45 ± 34 , respectively ($p < 0.001$, Mann-Whitney U test), while the mean \pm SD number of worked hours amounted to 149 ± 132 and 136 ± 116 , respectively ($p < 0.05$; Mann-Whitney U test). Compared to students representing 1–3 years, those

from 4 to 6 years worked for more days (mean \pm SD 36 ± 35 vs. 55 ± 35 ; $p < 0.001$, Mann-Whitney U test). Most of the students (83.3%) declared that they had not experienced moments of doubt during which they wished to resign from volunteering – this was also not diversified by the field or year of study ($p > 0.05$ in both cases, Pearson's χ^2).

3.3. Fears related to volunteering

The majority of students (79.3%) admitted to some level of fear at the beginning of volunteering, with a median (interquartile range, IQR) level of 2 (2–3) and the highest score (5) reported by 5.0%. The volunteers mostly feared the transmission of the SARS-CoV-2 to relatives (61.2%), contraction of the virus (24.5%), failure to fulfill entrusted duties (26.0%), and to a lesser extent, the reaction of the environment to their participation in volunteering (11.4%). The majority of surveyed reported that their level of fear decreased over the course of volunteering (58.4%) or remained unchanged (36.6%), with only 5% experiencing an increase.

The highest levels of initial fear were observed at the beginning of the recruitment process in the first three weeks, following which the median fear remained at the level of 2 (Fig. 2). It was not correlated with age ($p > 0.05$, Spearman's correlation) nor differed between female and male students, students of medicine and other fields of study or between 1–3 year and 4–6 year students ($p > 0.05$ in both cases, Mann-Whitney U test). A higher level of fear was observed in introverted individuals as compared to extroverted (median (IQR) 2 (2–3) vs. 3 (2–4), $p < 0.001$, Mann-Whitney U test). No other associations with personality traits were noted.

The decision of students to volunteer during the COVID-19 pandemic was frequently met with worries over their safety and health by their family (in 57.1% of cases), and to a lesser extent, friends (41.2%). Students engaged in romantic relationships ($n = 384$) reported that 48.4% of such worries were also expressed by their partners. Approximately one-third (34.1%) of surveyed students experienced dissuasion from volunteering, mostly by parents (65.2%), friends (31.8%), romantic partners (23.2%) and grandparents (21.7%).

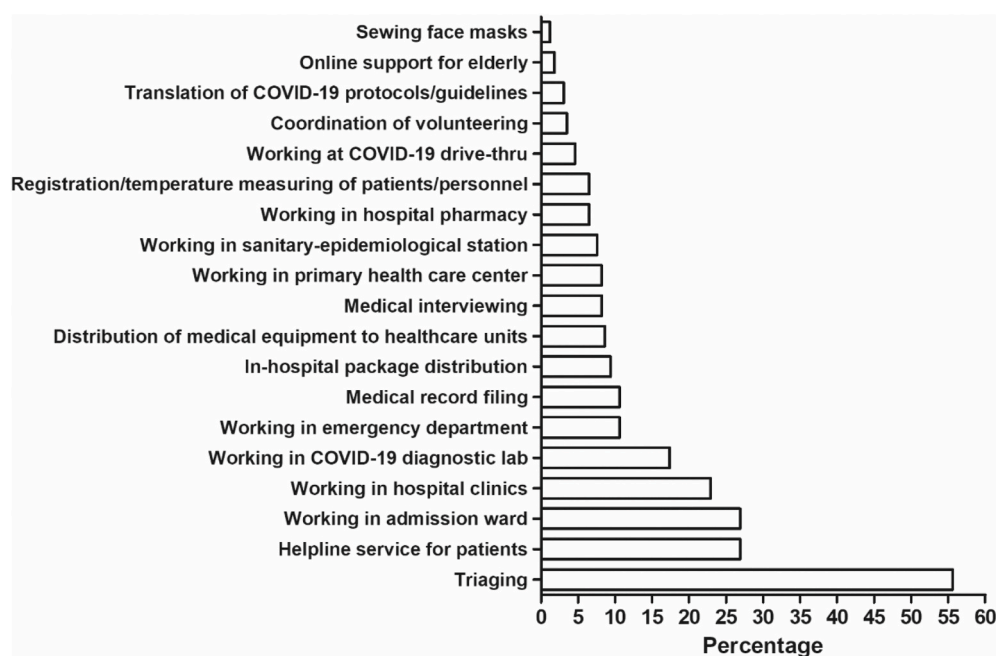


Fig. 1. The tasks performed by the surveyed group of medical students ($n = 580$) engaged in volunteer work during the first six months of the COVID-19 pandemic in Poland.

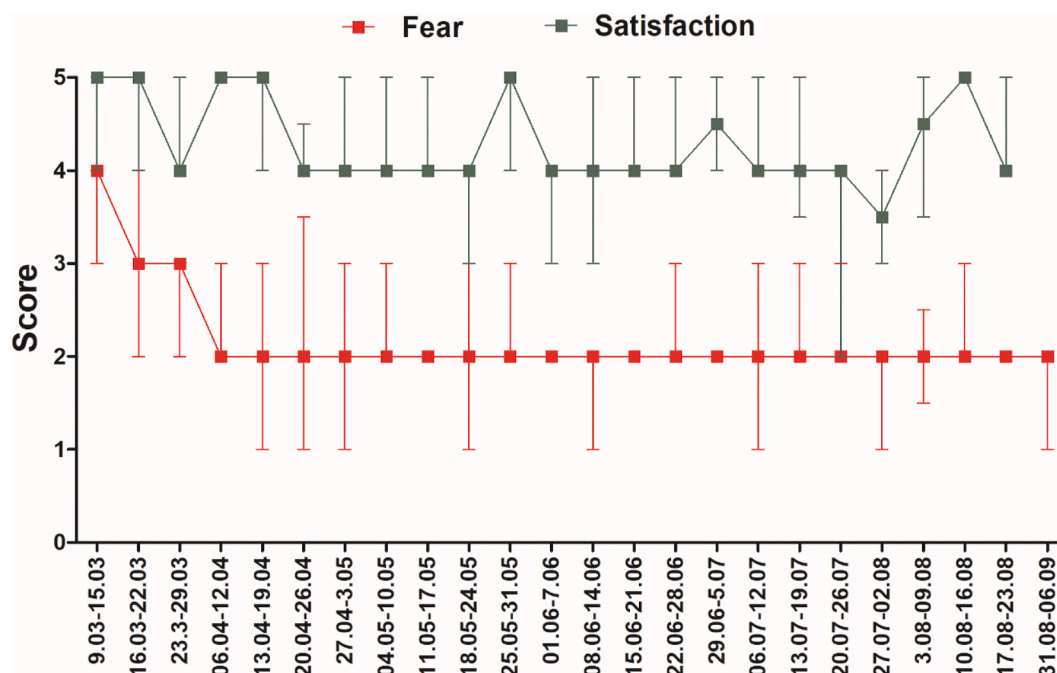


Fig. 2. The levels of fear and satisfaction (median and IQR) in the surveyed group of medical students ($n = 580$) volunteering during the first six months of the COVID-19 pandemic in Poland in relation to the period of recruitment.

3.4. Volunteer induction, personal safety and testing for SARS-CoV-2 during volunteering

The majority of students (91.6%) concluded that the received volunteer induction was sufficient, with responsibilities, protocols and procedures clearly explained. Lack of training on the management of aggressive patients and no general information on SARS-CoV-2 features were highlighted by 0.9% and 1.2% of students, respectively. However, the studied students frequently indicated (91.9%) that their principals gave them support and advice over the course of volunteering.

Although most of the students admitted that their personal safety was taken care of, nearly one-fourth (22.1%) declared that they had limited access to equipment - 54.7% of these cases concerned individuals recruited during the first five weeks from the beginning of the recruitment process.

Only 14.7% of surveyed students underwent SARS-CoV-2 nucleic acid diagnostic testing over the course of volunteering, with the majority of them having a swab sample collected only once (84.9%). The infection was confirmed only in 1 tested student (1.2%). Just a few students (0.5%) complained of a lack of obligatory testing during volunteering. Gender, field and year of study did not differentiate the frequency of testing for SARS-CoV-2 infection ($p > 0.05$ in both cases, Pearson's χ^2).

3.5. Prejudice related to volunteering

Discriminatory behaviors related to volunteering were experienced by 8.8% of surveyed ($n = 55$). The majority of these events were reported by students who recruited themselves for volunteering in March (61.5%) and April 2020 (15.4%). They were mostly related to social exclusion within a friendship group (42.9%), family (12.2%), neighborhood (14.3%) and student community (12.2%), but also included stigmatization by hospital patients (12.2%), refusal of service (6.1%) and threat of dismissal from work (2.0%). Compared to students not experiencing prejudice, those who faced it more often declared to having had moments of doubts during which they wanted to resign from further volunteering (33.3 vs. 15.1%; $p < 0.01$, Pearson's χ^2).

3.6. Positive feedback on volunteering

The majority of students (80.0%) owned to receiving positive feedback during the volunteering that included words of gratitude, pride and support. It was mostly expressed by friends (34.2%), healthcare workers (34.0%), patients (32.6%) and family (29.4%) but also academics (11.0%), other students (6.1%) and patients' families (4.3%). Compared to students who did not receive such feedback, the group who did receive it continued to volunteer for a longer period of time (mean \pm SD 40 ± 28 vs. 55 ± 37 days; $p < 0.001$, Mann-Whitney U test) and worked more hours (mean \pm SD 122 ± 78 vs. 149 ± 135 h; $p < 0.01$, Mann-Whitney U test). The group of students who reported no positive feedback did not differ in the frequency of moments of doubt during volunteering from those who received such feedback ($p > 0.05$; Pearson's χ^2).

3.7. Satisfaction and benefits from volunteering

The surveyed students were generally satisfied with the completed volunteer work with a median (IQR) level of satisfaction of 4 (4–5) and only 1.9% indicating a score of 1 (no satisfaction). Moreover, 73.2% declared their readiness to engage again in volunteer work if the epidemiological situation should require it. No apparent pattern in the level of satisfaction was seen in relation to time of recruitment for volunteering (Fig. 2). Weak but significant correlations with the hours worked ($R_s = 0.13$, $p < 0.05$) and the number of tasks in which students were engaged ($R_s = 0.11$, $p < 0.05$) were observed. No associations with age or initial level of fear were found ($p > 0.05$ in both cases, Spearman's correlation), nor was the satisfaction differentiated by gender, field or year of study or any personality trait ($p > 0.05$ in all cases, Mann-Whitney U test). There was, however, a significant difference in satisfaction between students who experienced COVID-19-related prejudice during volunteering and those who did not, with the former displaying a higher level (median (IQR): 5 (4–5) vs. 4 (4–5); $p < 0.01$, Mann-Whitney U test). Moreover, receiving positive feedback during volunteering was associated with a higher level of satisfaction compared to the situation under which such feedback was not expressed (median (IQR): 4 (4–5) vs. 3(3–5); $p < 0.001$; Mann-Whitney U test).

Nearly all students (99.0%) indicated that volunteering was associated with direct benefits, among which the most frequent included gaining professional experience, sense of giving real aid, and development of collaboration skills (Fig. 3).

4. Discussion

The present work documents the body of work provided voluntarily by the students of a medical university during the first six months of the COVID-19 pandemic in Poland. It highlights the enormous workforce potential that this group represents in a time of crisis. As shown, the surveyed students supported a wide range of healthcare units by engaging in a variety of tasks. The cumulative number of hours worked as volunteers in the studied group amounted to nearly 83,500h with the highest contribution from students of medicine. Bearing in mind that the European Working Time Directive, issued by the Council of Europe to protect the health and safety of all workers in the European Union [18], sets a maximum workweek of 48 h, the service provided by the 580 medical students during the first six months of the COVID-19 pandemic in Poland was worth the annual workload of over 33 individuals working 8 h for 6 days per each week. All in all, this clearly demonstrates that although medical students are not essential workers in the management of COVID-19 [19], they can be of real assistance to the healthcare system at a time of emergency that may arise also in the future [20].

Engagement in medical volunteering during the COVID-19 pandemic can be regarded as a risk-taking activity, particularly during the first phase of an outbreak, and has even been regarded by some authors as an unworthy sacrifice [19]. The COVID-19 pandemic has received enormous coverage from mass and social media, often amplifying the already existing public anxiety with alarming references such as a 'deadly disease' or 'killer virus', click-bait techniques, or dissemination of unsupported claims. Studies conducted in different geographical regions have clearly shown that COVID-19 was met by the public with stress and varying level and types of emotional reactions [21–23]. This could be further exacerbated by decisions to impose nationwide quarantines,

which in Poland took the most strict form between 24 March and May 4, 2020. The present study shows that within the first three weeks of recruitment, the level of fear was high but gradually decreased once the lockdown was imposed. Nevertheless, the majority of students surveyed in the present study owned to perceiving no or a very low level of fear when engaging in volunteering and experienced no increase over its course. Contrary to this, high fear levels were reported to be widespread during the COVID-19 pandemic [24,25]. This is related to sudden changes in routine medical procedures, heavy workload and high stress due to an overwhelmed healthcare system [26]. These aspects were, however, did not directly affect medical students, again highlighting the potential and readiness of this group to support the medical response to the crisis.

The present study has also revealed the personality profile of an average medical student willing to engage in volunteering during the emergency, predominantly characterized by curiosity, sensitiveness, calmness and sociability. The first is linked to higher openness, which tends to increase risk-taking [27,28], while the others may be respectively associated with better recognition of others discomfort, emotional control and the ability to co-operate [17,29] - all of these may play a role in the decision to volunteer during the pandemic of an infectious disease. In turn, extroversion, which is known to increase odds for risk-taking [30], was only slightly more frequently represented in the studied groups of students. One should, however, note that introversive individuals in the present study reported a higher level of fear at the beginning of the volunteer work.

As stressed by other authors, the engagement of medical students in volunteering during the COVID-19 pandemic at healthcare units requires ensuring their safety and protection [19]. Although the majority of surveyed volunteers indicated that these requirements were met, some concerning issues must be stressed. Firstly, only a small percentage of students were tested for SARS-CoV-2 nucleic acids. This was most likely due to the relatively low capacity of testing in Poland, especially at the initial stage of the pandemic, although it may also have been driven, to some extent, by a low level of fear and a related unwillingness to conduct such a test. One should note that only a few students

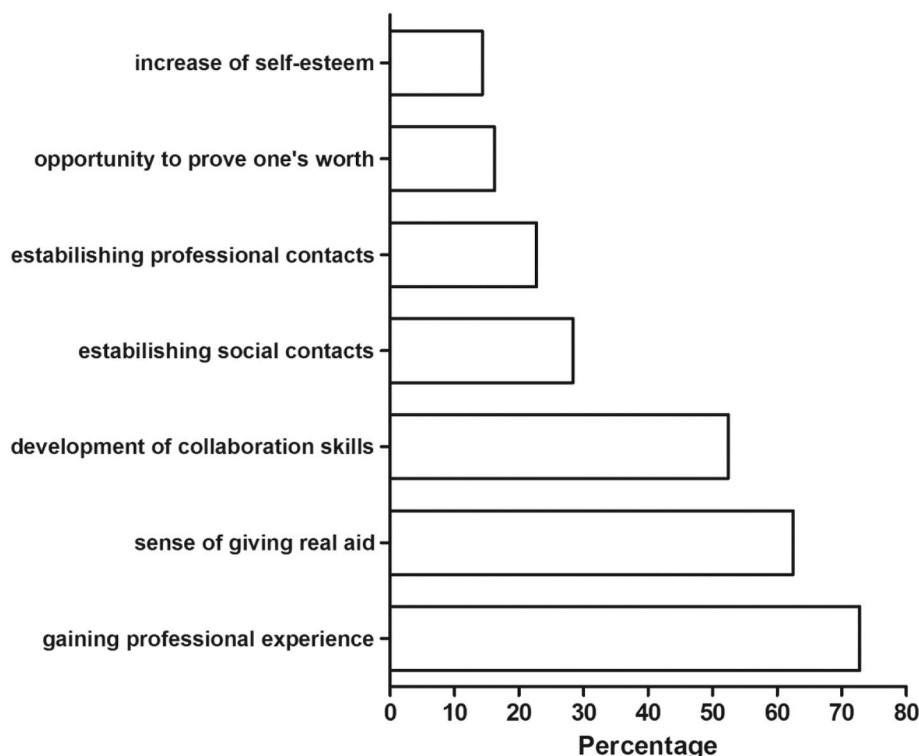


Fig. 3. The benefits of volunteering during the COVID-19 pandemic indicated by the surveyed group of Polish medical students (n = 580).

complained of a lack of obligatory testing during volunteering. Nevertheless, it should be emphasized that regular and obligatory testing of students serving as volunteers during an outbreak of infectious disease, particularly if they come into direct contact with patients, should be ensured by the national health authorities as an integral part of the strategy to minimize the risk of transmission and increase the sense of safety.

Another safety issue that is essential for medical students volunteering during the COVID-19 pandemic is access to personal protection equipment (PPE). As revealed, this requirement was not completely met for almost one-fourth of the surveyed students. The primary reason behind it was the shortages of PPE, experienced in the majority of countries due to problems with the global supply chain [31,32]. Additionally, wearing face masks in public spaces was not obligatory in Poland until April 14, 2020, while the guidance of the World Health Organization was also modified over the course of the pandemic. The volunteering medical students should, however, be considered as health workers and, by definition, use PPE. We are of the opinion that if this condition cannot be met by certain institutions, no volunteering should be allowed as potential risks may outweigh the benefits.

Importantly, most of the surveyed students declared that volunteer induction was sufficient, although it was performed under limited availability of time, particularly in the first weeks of recruitment. However, some points should be considered in the future, even if they were raised by only a fraction of the surveyed individuals. Firstly, students who are to come into contact with patients during an emergency should undergo training on how to deal with challenging, aggressive or violent patients. This requires the involvement of psychologists familiar with medical settings rather than health professionals who often feel uncertain in this regard [33–35]. Secondly, apart from explaining the responsibilities and procedures, it is of high importance to deliver essential information on the features of an infectious disease (e.g., routes of transmission) and the main characteristics of its causative agent (e.g., environmental stability of the virus, inactivation methods). Under limited time availability, as seen during the emergency, the solution is to provide printed materials or record and share an explanatory online video.

The present study also assessed the potential prejudice experienced by the students during the volunteering. In general, discrimination and stigmatization, targeting a wide group of individuals, are not uncommon during epidemiological events [36–38]. Specifically, during the COVID-19 pandemic various groups were exposed to such behaviors and included individuals of Asian descent, patients and their families, and healthcare workers [39,40]; Duan et al., 2020; [23]. Such exposure may impact not only mental health but also adversely affect the efficiency of work [41,42]. As shown here, prejudice was encountered only by a small fraction of the surveyed students, mostly recruited for volunteering during the early stages of the COVID-19 outbreak in Poland. This highlights the vivid fear of the unknown that can fuel discriminatory behaviors and stigma, as already seen in other contexts related to COVID-19 [7,43]. Although the prejudiced students experienced moments of doubt more often during volunteering, interestingly, they also revealed a higher level of satisfaction from volunteering. It can therefore be hypothesized that this may be due to different, less powerful forms that such discrimination took in the case of the surveyed students compared to professional healthcare workers or that they are less prone to its effects with the ability to overcome them. This again emphasizes the preparedness of medical students to provide aid during a health crisis.

Despite all the above-discussed insufficiencies, the surveyed group of medical students expressed a high level of satisfaction from their volunteering work, regardless of the time of recruitment, initial level of fear, age, gender and personality profile. The majority of them also received positive feedback from different groups of individuals. The words of gratitude expressed by patients and their families, as well as healthcare workers employed at medical units and academies, highlight

that support to the COVID-19 pandemic given through volunteering was very much needed. Such feedback is known to beneficially promote the reinforcement of the decision to volunteer under potentially stressful conditions [44,45]. In the present study, the students who received encouragement volunteered for a longer period, worked more hours and displayed a higher level of satisfaction from volunteering.

Finally, a number of real benefits arise from the provided aid, with the chance to gain professional experience indicated most frequently. This is particularly important given the fact that the investigated group included not only students of medicine from the final year, which in other countries such as the United Kingdom and Italy were considered as a supportive workforce during the pandemic [46,47]. Considering the average number of hours volunteered by the students surveyed in the present study, the variety of tasks and healthcare units they were involved in, and different fields and years of study they represented, it is of no doubt that the experience gained when facing the crisis by providing aid will benefit these individuals in the future.

Although the present study provides an insight into the experiences of medical students as a volunteer workforce during COVID-19, the limitations of the study need to be highlighted. Firstly, these experiences relate to students of one Polish university and caution must be taken in their extrapolation over the volunteers not associated with medical sciences or in other countries as the epidemiological situation and available resources may differ. Secondly, the study employed an anonymous online questionnaire that was a desired approach during the pandemic and enabled reaching a relatively high number of participants. It should be however stressed that such a method does not allow verifying the data on objective grounds. Some more general conclusions on how medical students contributed to the response to COVID-19 will be possible as more studies in this regard will emerge from various other world parts.

5. Conclusions

The present study, the broadest to date, explored the voluntary work of medical students at different Polish healthcare units during the COVID-19 outbreak from their own perspective. It documents the tremendous workforce and aid provided by the group of these young people, highlights the benefits resulting from their volunteering, and advocates that they should be considered in the case of emergency due to their preparedness to engage in multiple tasks supporting the healthcare system. Simultaneously, the study uncovers certain insufficiencies that emerged in the process and should be addressed should the need arise to mobilize students in response to health emergencies once more. The experience presented in this study is of great significance to national authorities and emergency management agencies because it provides insight regarding the voluntary workforce of medical students, as well as valuable information for individuals directly responsible for organizing and coordinating the voluntary service during the epidemics.

Contributions

Study design, methodology, investigations - D.B., M.N. and P.R.
Original draft preparation - P.R. Writing and editing - D.B., M.N. and P.R.

Ethical approval

This was an anonymous survey. No ethical approval was required.

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None.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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