

# THE KNOWLEDGE OF STUDENTS IN OPOLE MEDICAL SCHOOL ON HONORARY BLOOD DONATION AND TRANSFUSION MEDICINE – ANALYSIS OF OWN RESEARCH

WIEDZA STUDENTÓW PAŃSTWOWEJ MEDYCZNEJ  
WYŻSZEJ SZKOŁY ZAWODOWEJ W OPOLU  
DOTYCZĄCA HONOROWEGO KRWIODAWSTWA  
I LECZENIA KRWIĄ – ANALIZA BADAŃ WŁASNYCH

SABINA CZAPLA<sup>1 A-F</sup>  
JOANNA ŚLIWIŃSKA<sup>1 A-F</sup>  
TERESA NIECHWIADOWICZ-CZAPKA<sup>1,2 A,C-E</sup>

<sup>1</sup> Student of Nursing Faculty, member of Honor Blood Donors  
Polish Red Cross Club, Opole Medical School, Poland  
<sup>2</sup> Nursing Faculty, tutor of Honor Blood Donors  
Polish Red Cross Club, Opole Medical School, Poland

**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 ultimate purpose of blood donation is to obtain blood from healthy donors for use by those who require a blood transfusion. This becomes possible due to a solid base of blood donors. Oftentimes, students are recruited as they represent a large potential pool of donors. The results of this survey indicate the areas that require focus in order to promote voluntary blood donation.

**Aim of the study:** To determine the amount of knowledge that Opole Medical School students have concerning blood donation and its treatment.

**Material and methods:** This research was performed using a diagnostic survey method. One hundred Opole Medical School students anonymously filled out a questionnaire concerning blood donation. Their answers were analyzed in an “R” statistic and PSPP program. The answer content was assessed with consideration for collegiate level, medical education, potential blood donation, and contact with blood donors.

**Results:** 85% of students think that their knowledge is average. 82% of students reported understanding that blood donation is non habit-forming, while 65% were aware there is no risk of blood overproduction in the case of regular donations. Approximately 22% of respondents were aware that blood donation has minimal risk for the donor, but half of the respondents had an incorrect understanding of donor privileges.

**Conclusions:** Students with medical education, senior level students and those who have contact with honor blood donors, do not have greater knowledge than other respondents. The greatest knowledge of blood donation and transfusion have these students who are actually honor blood donors.

**KEYWORDS:** blood donation, students, knowledge

## STRESZCZENIE

**Wstęp:** Honorowe krwiodawstwo jest akcją społeczną mającą na celu pozyskiwanie krwi od osób zdrowych na rzecz osób wymagających transfuzji. Leczenie krwią możliwe jest dzięki stałej bazie krwiodawców. Propagowanie idei honorowego krwiodawstwa wśród studentów jest bardzo ważne, ponieważ są oni potencjalnymi dawcami

krwi. Wyniki badań ankietowych wskazują obszary wiedzy, na których w propagowaniu honorowego krwiodawstwa należałoby się szczególnie skupić, aby pozyskać nowych dawców.

**Cel pracy:** Poznanie wiedzy studentów PMWSZ w Opolu na temat krwiodawstwa i krwiolecznictwa.

**Materiał i metody:** W badaniach udział wzięło 100 studentów PMWSZ w Opolu. Zastosowano metodę sondażu diagnostycznego z wykorzystaniem autorskiego kwestionariusza ankiety.

**Wyniki:** 85% (85) badanych ocenia swoją wiedzę z zakresu krwiodawstwa jako średnią. 82% (82) jest świadomych, że oddawanie krwi nie uzależnia fizycznie. 65% (65) respondentów wie, że nie istnieje ryzyko nadprodukcji krwi w przypadku regularnego jej oddawania. 47% (47) ankietowanych zna zastosowanie krwi w leczeniu. Tylko 22% (22) wie, że oddawanie krwi nie stwarza ryzyka dla dawcy. 50% (50) respondentów ma błędne informacje na temat przywilejów krwiodawców.

**Wnioski:** Największą wiedzę w zakresie krwiodawstwa i krwiolecznictwa mają honorowi dawcy krwi. Nie potwierdziły się hipotezy zakładające, że studenci lat programowo wyższych, osoby, które mają wykształcenie medyczne i studenci, których znajomi są honorowymi dawcami, mają większą wiedzę na temat krwiodawstwa.

**SŁOWA KLUCZOWE:** honorowe krwiodawstwo, studenci, wiedza

## BACKGROUND

Blood is one of the most necessary medicines. Development of blood donation enabled progress in many areas of medicine. Blood transfusions reduced perioperative and postoperative mortality. Blood treatment is only possible with a constant blood donor base.

In 99.8% of cases blood donation is honorary. There are only exceptional cases when it is paid. An honorary blood donor is a person who, at least once, donated blood honorarily.

According to the main principle of blood donation: "Minimum harm, maximum benefit", people, who have received blood transfusion or transfusion of blood preparations cannot donate blood within the first 6 months after transfusion, as well as the people, who had contact with patients infected with hepatitis virus, underwent diagnostic tests or endoscopic procedures and returned from countries with high incidence of HIV (Middle Africa, West Africa, Thailand), people with tattoo, who underwent acupuncture and body piercing [1].

Blood should be donated no sooner than 6 months after surgery, 4 weeks after the infectious disease, 2 weeks after influenza or flu-like infection, at least 2 weeks after antibiotic treatment and after infection with fever over 38 C.

On the day of blood donation, absences at the place of study or work is excused. The donors also are entitled to reimbursement of expenses of travel to the donation facility. All donors can also get their lab tests free of charge. As part of the promotion of honorary blood donations, honorary donors can also receive free ID cards with blood group (so called "Blood-cards") [2].

Since January 1, 2007 there is a new personal income tax relief (PIT). It allows to deduct the value of donated blood from the basic income tax (based on Law act. Art 26, Paragraph 1. Point 9 C, the Law Act, July 26, 1991 on individual income tax). The regulations on cash equivalent are used in order to determine the value of donation. Honorary donors also have the privilege allowing them to use health-care system without queueing.

## AIM OF THE STUDY

Evaluation of knowledge of students in Opole Medical School on honorary blood donation and transfusion medicine.

## MATERIAL AND METHODS

The study was conducted using the diagnostic survey with questionnaire consisting of 2 parts. The first part included variables and self-assessment questions related to honorary blood donation, while the second part comprised questions on knowledge on this subject. The survey was anonymous and voluntary. The study group included 100 students of Opole Medical School. The material was analyzed taking into account: year of study, medical education, which had 7% (7) of surveyed students, active blood donation and Contacts with honorable donors.

It was assumed that the following people have more knowledge on honorary blood donation and transfusion medicine:

1. Students of higher semesters
2. People who already have medical education
3. Honorary blood donors.
4. People whose friends are honorable blood donors

The statistical analysis was performed in the "R" environment, in PSPP program, with significance point set at  $p < 0.05$ .

## RESULTS

The questionnaire included questions relating to the various aspects of blood donations and risk for patients posed by transfusion medicine. The respondents had to answer, whether there is a risk of blood overproduction in case of regular donation. Most students chose the correct answer and assumed that this is just an urban legend, but 35% (35) has stated that such risk actually exists (Fig. 1).

The responded had also answer the question, of whether the donation may close physical addiction. 82% (82) of the respondents indicated the correct answer, and recognized it as an urban legend (Fig. 1).

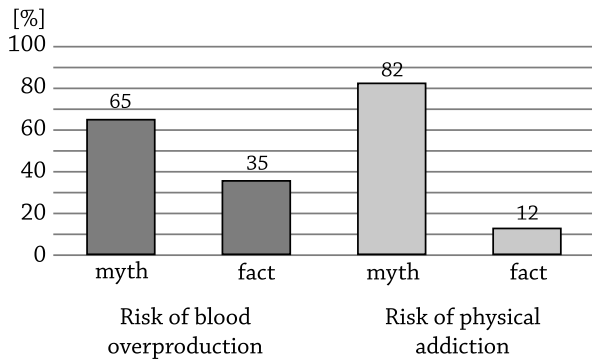


Figure 1. The answers of students regarding blood overproduction and physical addiction to blood donation

The students also answered the question, whether there is a risk of infection during blood donation. 38% (38) of students chose the correct answer, which is that there is no risk. Most respondents recognized that there was a risk of infection when donating blood. The students are mostly afraid of HBV and HIV infections.

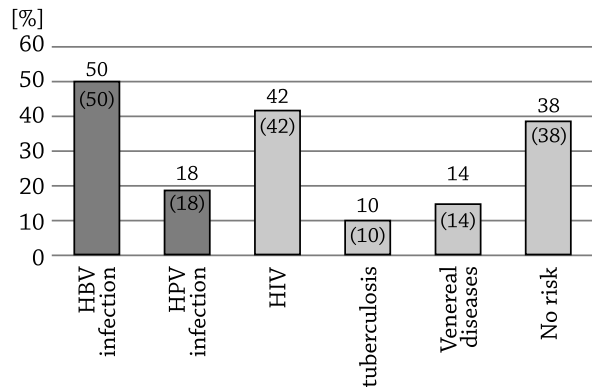


Figure 2. The level of knowledge of the students on risk of infection during donation

The students mostly estimated the amount of donated blood correctly. 60% (60) of them indicated that the volume of donated blood amounts to 450 mL (Fig. 3).

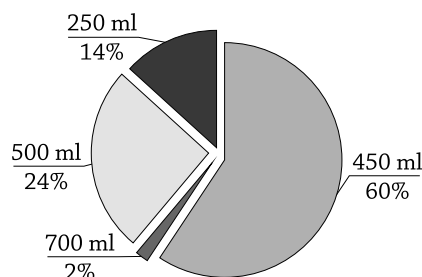


Figure 3. The answers of students to the questions about the amount of blood taken during blood donation

47% (47) of the respondents answered the question about the use of blood in treatment correctly (Fig. 4).

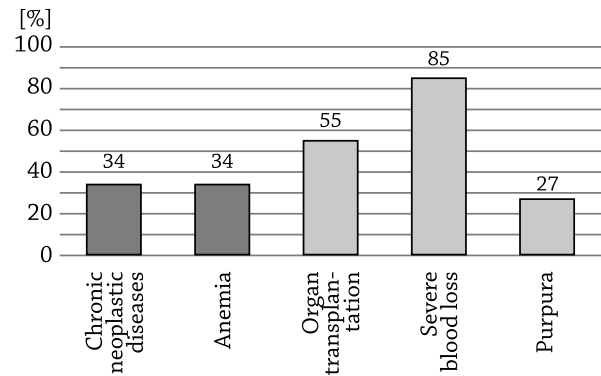


Figure 4. The knowledge of students on the use of blood in medical treatment

Half of the evaluated population is misinformed about privileges for honorary donors. As the examples of privileges the students mentioned discounts in public transportation (23%, 23 people) and lower prices of drugs (16%, 16 people). The students considered chocolate as one of the privileges incorrectly (43%, 43 people) as well as medical leave from work or school on donation day (36%, 36 people) and gadgets promoting honorary blood donation. 40% (40) of the surveyed students know about the possibility of annual tax deduction for the Distinguished Blood Donor (Fig. 5).

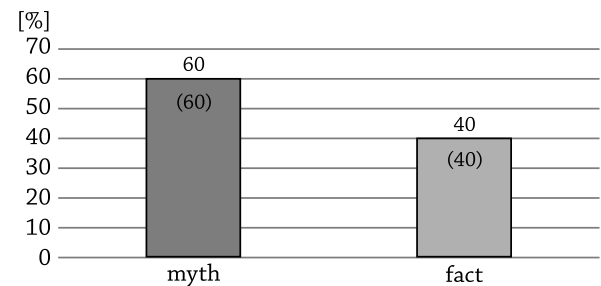


Figure 5. The answers of the students regarding the knowledge on possibility of annual tax deduction in honorary blood donors

The conducted studies did not present statistically significant differences in knowledge on blood donation between students of different years.

Tab. 1. The correlation between the year of the study and the knowledge on blood donation

Kruskal-Wallis test	
Variables	Result
Year of study – independent variable (grouping)	$X^2 = 0.934$ $df = 3$
Knowledge about blood donation – dependent variable	$P = 0.817$

The results of the performed studies indicate that there are no statistically significant differences between the level of knowledge on blood donation and medical education (Tab. 2).

Tab. 2. Correlation between the level of knowledge on blood donation and medical education

Mann Whitney Test	
Variables	Result
Medical education – independent variable (grouping)	U = 403.500 P = 0.196

The study indicates that between people, who are not honorary blood donors, there are statistically significant differences in the level of knowledge on blood donation (Tab. 3).

Tab. 3. The correlation of knowledge on blood donation between blood donors and people, who do not donate blood

Mann Whitney Test	
Variables	Result
Honorary blood donation – independent variable (grouping)	U = 607.000 P = 0.000
The level of knowledge on blood donation – dependent variable	

Half of the respondents gave 6 to 8 correct answers. The median amounted to 7, which means that at least half of the respondents had that score.

The study indicates that there are no statistically significant differences between the level of knowledge on blood donation between people who, do not know, or know somebody, who is an honorary blood donor. 4)

Tab. 4. The correlation of having friends, who are blood donors and the level of knowledge about blood donation

Mann Whitney Test	
Variables	Result
Honorary donor among friends / family – independent variable (grouping)	U = 1133.500 P = 0.687
The level of knowledge on blood donation – dependent variable	

## DISCUSSION

Students comprise an important group of blood donors. Desire to help others is usually the main motivation of blood donation [3–6]. However, conscious blood donation should be also based on reliable knowledge, especially in medical students. Based on the conducted survey, 85% (85) of the students in Opole Medical School, assessed their knowledge on blood donation and transfusion medicine as intermediate and 11% (11), think that they are experts in this field. However, the analysis of more detailed questions did not confirm such a high self-esteem of the students. Mostly the knowledge on privileges for honorary blood donors and consequences of regular blood donation for health.

According to the diagnostic survey conducted in our University in 2008, many students, who were not

donors (61.2% out of 85 surveyed people) were also afraid of potential adverse effects, the regular blood donation may have.

In comparison with the results of the survey conducted in 2008, at present the number of people, who cannot donate blood due to contraindications decreased. The percentage of students, who do not donate blood because of fear also decreased from 21% (21) in 2008 to 14% (14) in 2015. The number of students, who claim that they have never had a chance to donate blood decreased from 13% (11) in 2008 to 11% (11) at present. However, the percentage of people who are afraid of infection increased significantly from 23% (20) in 2008 to 62% (62) in 2015. Also, students who are afraid of getting addicted to blood donation is 9 times higher than in 2008[3]. However, it should be stressed that these studies were conducted on two different groups of respondents, which could have significantly affected the results of the comparison.

The study conducted by Kozłowska K. and Mayor-Kemp M. on the university students in Wrocław between 2009 and 2010 revealed similar results and the knowledge of these students was assessed as unsatisfactory. Students have the least knowledge about the benefits of being a donor [4]. Similarly to own study, the level of knowledge of blood donors in Wrocław is higher in comparison to the people who never donated blood. Also the level of knowledge of the students at Opole Medical School was average, despite a positive attitude towards honorary blood donation. Many students did not know in what conditions and when they can donate blood.[5].

Health-related reasons were most common explanations, why the students refuse to donate blood. Similarly to the results obtained in the study conducted by students of Medical University in Lublin [6].

Concerns reported by the students regarding blood donation and risk of infections during donation result from insufficient knowledge about blood donation procedure.

The results of own research and studies conducted in the other universities indicate that students generally have a positive attitude towards honorary blood donation. This does not, however, translate into the percentage of people actively engaged in the honorary blood donation.

## CONCLUSIONS

1. The actions undertaken to promote blood donation in Opole Medical School should be improved.
2. It is important to increase the knowledge of students about the risk for blood donors.
3. Knowledge of current privileges for honorary blood donors should be promoted.

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**Correspondence address:**

Sabina Czapla  
ul. Zamknięta 2  
46-375 Pludry  
Phone: (+48) 512 523 341  
E-mail: [sabina.026@wp.pl](mailto:sabina.026@wp.pl)

Teresa Niechwiadowicz-Czapka  
Państwowa Medyczna Wyższa Szkoła Zawodowa w Opolu  
ul. Katowicka 68  
45-060 Opole  
Phone: (+48) 601 393 775  
E-mail: [tecia7@onet.eu](mailto:tecia7@onet.eu)

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