

The knowledge of physiotherapy students about HIV infection and their attitudes towards people living with HIV

Anna Śliwińska¹

¹ Medical University of Gdansk, Poland

Correspondence to: Anna Śliwińska, email: anuluj50@onet.pl

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Abstract

Background: The HIV pandemic is thought to have begun in the 1970s. The first cases of HIV infection in Poland were identified in 1985. As of 09/12/2019, approximately 12,382 people, including 97 children, have received antiretroviral therapy. According to the data from 2014-2018, sexual contact was the most likely (as determined by an interview collected from the person being tested) route of HIV transmission in Poland.

Aims: The aim of this study was to assess the knowledge of physiotherapy students and to analyze the attitudes of future physiotherapists towards HIV infection.

Material and methods: A self-administered questionnaire was used for this study. A group of 100 physiotherapy students (72 females, 28 males) was included in the research.

Results: The students' level of knowledge was sufficient. Respondents were knowledgeable about the routes of spread and testing. They had poorer knowledge of the epidemiology and clinical picture of the infection. Students demonstrated a partial acceptance towards people living with HIV, which was mainly manifested by feeling the need to work with gloves and the need to be informed by the patient about the presence of infection. Most students believe that the curriculum does not adequately educate physiotherapists in the area of infectious diseases.

Conclusion: The students' level of knowledge was sufficient. Students demonstrated a partial acceptance towards people living with HIV. However, most of the respondents felt that the curriculum did not adequately educate them in infectious diseases.

Key words

HIV infection, physiotherapy in HIV infection, students' knowledge about HIV, students' attitudes towards HIV, HIV among health care professionals

Introduction

The beginning of the HIV (Human Immunodeficiency Virus) pandemic causing AIDS (Acquired Immune Deficiency Syndrome) is considered to be the 1970s. Anti-HIV antibodies were first detected in the blood serum from the Bantu tribe (now the territory of the Democratic Republic of the Congo). The blood sample dates to 1959. From the beginning of the epidemic to the end of 2018, an estimated 74.9 million people have been infected with HIV, and approximately 32 million have died from AIDS [1].

According to the data collected by the Joint United Nations Programme on HIV/AIDS (UNAIDS) project [2,3]: (1) At the end of 2018, nearly 37.9 million people were living with HIV worldwide, including 1.7 million children under the age of 15; (2) In 2018, the number of newly diagnosed cases of HIV infection was approximately 1.7 million; (3) approximately 700,000 people died from AIDS in 2018; (4) by the end of June 2019, approximately 24.5 million people had received antiretroviral treatment.

The first cases of HIV infection in Poland were identified in 1985. There were 11 people, including: 6 hemophilia patients, 4 homosexual men, and a female sex worker. Since then, just over 25,000 people have been infected with HIV by September 30, 2019, and 3,741 have been diagnosed with AIDS. As a result of the infection, 1,424 people have died. As of 09/12/2019, approximately 12,382 people, including 97 children, have received antiretroviral therapy. According to the data from 2014-2018, sexual contact was the most likely (as determined by the interview collected from the individual being tested) route of HIV transmission in Poland [1,4,5].

Aims

The aim of this study was to assess the level of knowledge of physiotherapy students about HIV infection and to analyze the attitudes of future physiotherapists towards HIV infection. The fol-

lowing research questions were defined: (1) What is the level of knowledge of physiotherapy students regarding HIV infection? (2) What attitudes do physiotherapy students exhibit towards people living with HIV? (3) According to students, does the current curriculum sufficiently educate the future physiotherapist in the area of infectious diseases?

Material and methods

The study considered both full-time and part-time students studying physiotherapy. Students who completed a self-administered questionnaire about HIV infection were eligible for the study. The study included 100 physiotherapy students (72 females, 28 males) at different stages of education. For this purpose, a self-administered questionnaire was constructed, which consisted of two parts and included 25 questions about students' knowledge of HIV infection and students' attitudes toward people with HIV.

The study was conducted in 2020 and was approved by the Bioethics Committee for Scientific Research at the Medical University of Gdansk in Poland. Before taking the survey, each respondent was briefed on the anonymity of the survey and the objectives of the study.

The analysis was performed using IBM SPSS software. The results were presented using percentage fractions, descriptive statistics, and statistical differences between variables. In addition, differences in the general level of knowledge according to socio-demographic data (gender, year of study) and opinions about HIV infection were analyzed using the Mann-Whitney U test (for comparisons of two groups) and the Kruskal-Wallis test (for comparisons of more than two groups). The threshold for statistical significance was $p < 0.05$.

Results

In the knowledge test (questions 3 to 18), the participant could score a maximum of 28 points. Four levels of knowledge were determined based on the total score: Insufficient (< 14 points); Sufficient (14–20 points); Good (21–24 points), and Very Good (25–28 points). The majority of respondents

(71%) obtained a sufficient level. A number of students (14%) also showed a good level of knowledge. An unsatisfactory grade was received by 15% of the respondents, while no respondent obtained a very good grade (Fig. 1).

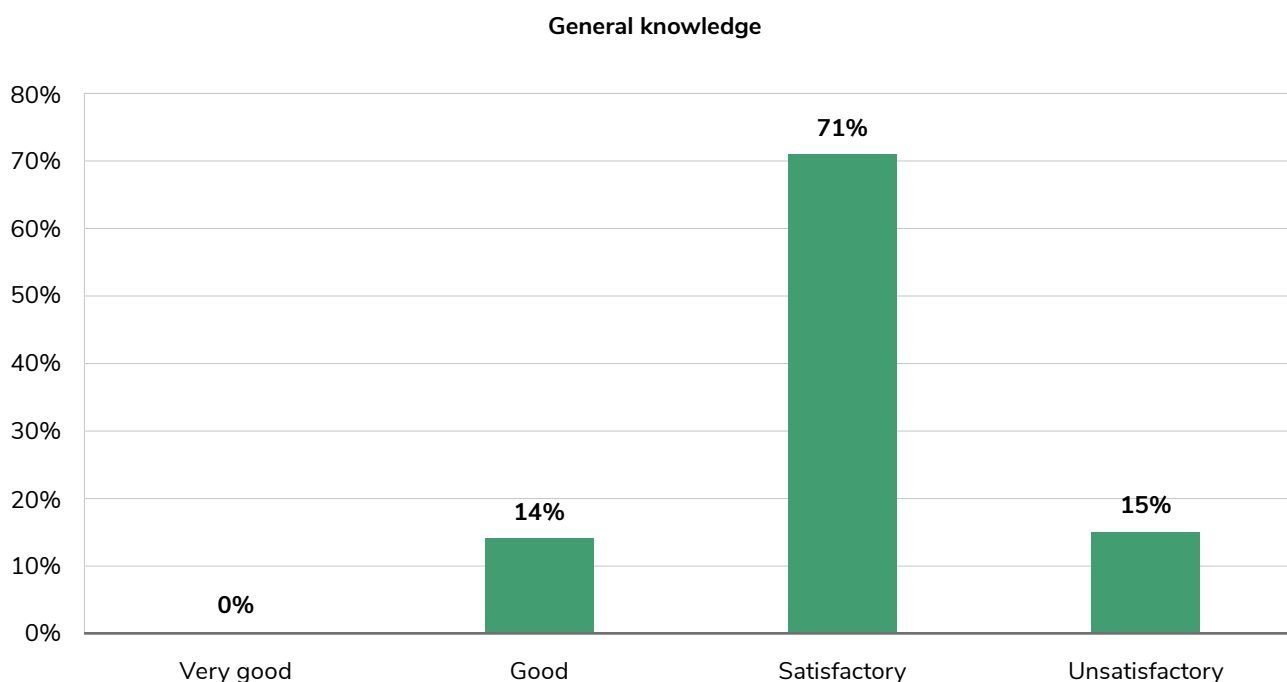


Figure 1. The general level of students' knowledge about HIV infection.

34% of participants (n=34) were able to correctly unfold the abbreviation HIV. All respondents knew that HIV infection could be contracted through sexual contact with an infected person (n=100). 99% of individuals (n=99) knew that HIV transmission could not occur through touch. All participants indicated the correct answer, identifying blood exposure as a potential source of infection (n=100). 4% of respondents (n=4) identified the use of shared utensils as a potential source

of HIV infection, while 96% of respondents (n=96) knew that this was not a transmission route. 96% of respondents (n=96) correctly indicated that coughing and sneezing are not potential routes of HIV infection. The majority of respondents (74%, n=74) correctly answered that testing for HIV infection is not conducted by taking an oral swab. For diagnosis of HIV infection, 81% (n=81) knew that a referral was not needed. The majority of individuals (57%, n=57) mistakenly believed

that HIV testing should begin three weeks after an event during which potential infection may have occurred. Only a small number of students (22%, n=22) were aware that HIV testing could be done free of charge by anyone at designated HIV testing centers. The vast majority of respondents (79%, n=79) knew that modern treatment does not provide complete eradication of HIV. In recent years, the number of new, registered HIV infections in Poland has maintained a growing trend – this answer was correctly indicated in the survey by 34% of students (n=34). In Poland, homosexual contact (males) was the main route of HIV infection in 2014-2018, and 35% of respondents (n=35) provided this answer. Slightly more, because 40% of participants (n=40) believed that drug injection was the main route of infection. The remaining individuals (25%, n=25) identified heterosexual contact as the main source of infection. The number of deaths from AIDS in Poland has been declining over the last decade and 56% of students provided this answer (n=56).

The general attitude of physiotherapy students towards HIV infection

In the questionnaire section on physiotherapy students' attitudes towards HIV infection (questions 19 to 24), respondents could score a maximum of 12 points. The following attitudes were identified: acceptance (9-12 points), partial acceptance (4-8 points), and lack of acceptance (0-3 points). The most common attitude displayed by the respondents was the attitude described as partial acceptance. This result was obtained by 62% of the participants. Full acceptance was presented by 33% of students, while lack of acceptance was reported by 5% of students (Figure 2).

According to 63% (n=63) of the participants, the degree program does not adequately educate future physiotherapists in this area. On the other hand, 19% of subjects (n=19) had no opinion on this issue, and 18% of respondents (n=18) selected a "yes" answer (Figure 3).

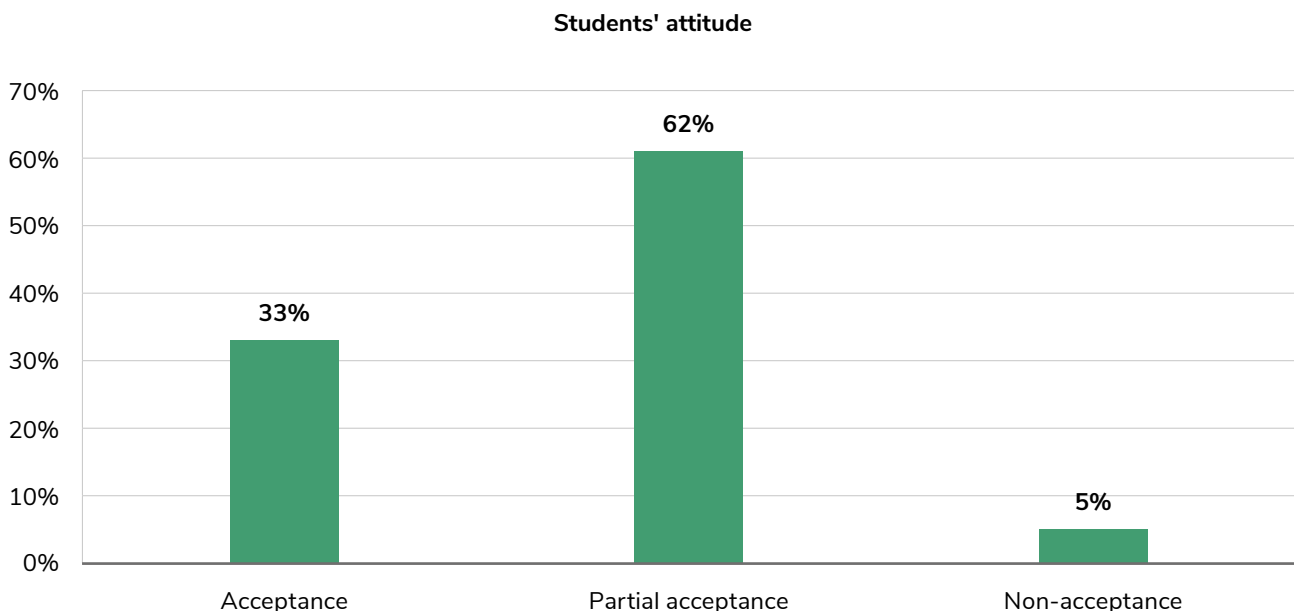


Figure 2. The attitude of physiotherapy students towards people living with HIV.

Whether the study curriculum sufficiently prepares the future physiotherapist with knowledge of infectious diseases

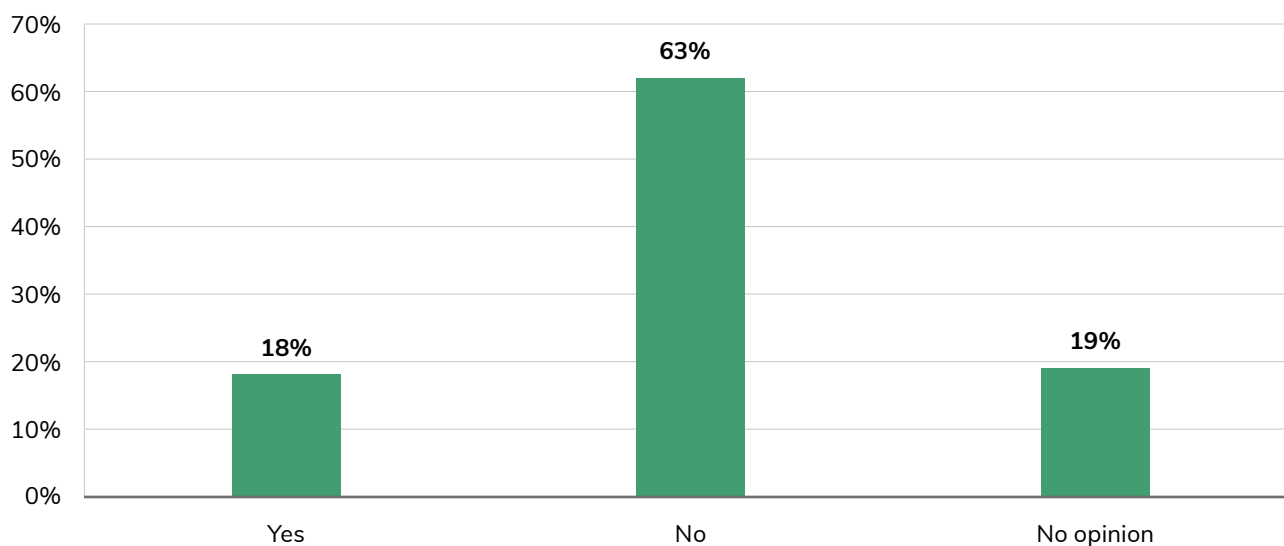


Figure 3. Evaluation of the study curriculum for physiotherapist education in the field of infectious disease.

Discussion

Fear of HIV also affects health care workers and is higher than fear of infection with hepatotropic viruses, although these infections occur more easily. Fear of HIV translates into negative attitudes towards infected patients and is the reason for demands for mandatory HIV testing [6,7]. Occupational exposure carries a risk of HIV infection of 0.1-1% after a single contact and exposure to infectious material. Superficial cuts carry a low risk of infection, while deep wounds, blood on the utensils, and needles after intramuscular or intravenous injection carry a higher risk [8]. After a single exposure, the risk of infection is much higher for HBV (6-30%) and HCV (2.7-10%) than for HIV.

Despite the many benefits of physiotherapy, few people living with HIV use such services. In a survey conducted by deBoer et al. [9], 27% of patients living with HIV had regular therapy sessions with a physiotherapist, while nearly 20% of patients had never used one. The most common reason for patients reporting to a physiotherapist was

HIV infection in itself and adverse effects of ART therapy (73%). In addition, 64% of patients made such a visit because of other health problems, and just over half needed help with improving daily activities [9].

The level of knowledge of the participants can be described as sufficient. The problem was the unfolding of the abbreviation HIV - only 34% of students gave the correct answer, 66% did it wrong or gave no answer at all. However, the majority of respondents (71%), receiving a sufficient test score, demonstrated a sufficient level of knowledge in basic information regarding HIV infection. Almost all students could correctly identify the routes of HIV infection, knew the basic principles of testing, and knew that there is no effective HIV vaccine.

The results of our study indicate that although the vast majority of respondents show basic knowledge about the ways of HIV spread and the principles of testing, the course of the infection itself and the clinical picture of patients is not as

familiar. When planning and carrying out therapy, it is essential that the physiotherapist knows the needs of the patient and, therefore, knows the course of the infection and the adverse effects of antiretroviral (ART) therapy. This is mainly done to select the right treatments and the right exercises and choose the resources and working tools that will encourage the patient to attend therapy. The low level of knowledge about HIV susceptibility to sterilizing agents leads to the conclusion that physiotherapy students are not fully aware of the principles of HIV prevention. It is extremely important that any health care worker who comes in contact with a patient or infectious material be aware of the potential for infection with HIV and other viruses. Similarly, a physiotherapist should take into account that an infected individual may use their services.

Nearly all respondents (94%) felt it was necessary to conduct activities to disseminate knowledge about HIV infection, and nearly 65% of students agreed that the curriculum does not sufficiently educate future physiotherapists in the area of infectious disease. In light of the events surrounding the COVID-19 pandemic, the need to educate health care professionals about infectious diseases is very evident.

Many people living with HIV have an incomplete picture of the physiotherapist, limiting their professional role in performing movement exercises and assisting with gait. On the other hand, they observe the lack of knowledge of physiotherapists about the nature of HIV infection, which is sometimes burdensome for them as patients. Physiotherapists recognize that working with HIV (+) patients primarily requires working in a one-on-one model due to the patients' varying health status and symptoms, which can change over days or even within a day. This form of work requires not only adequate knowledge, but most importantly clinical communication skills and empathy [9].

Among the attitudes of physiotherapy students, partial acceptance of the problem of HIV infection prevails. It is mainly manifested in careful

contact with patients (70% of the respondents think it is necessary to wear gloves when working with HIV-infected patients, although 99% of the students know that touch is not a source of infection). On the other hand, 66% of respondents say they would treat an HIV (+) patient the same as any other patient. A high level of fear when working with HIV (+) patients was reported by a group of nurses in the study conducted by Weglarska and Posluszna-Owcarz [10], who reported that almost 62% of nurses felt or rather felt fear when dealing with HIV (+) patients). Nearly 52% of nurses admitted that they kept contact with infected patients to a minimum.

In the present study, 43% of the participants felt that the job of a physiotherapist carried a significant risk of HIV infection. Nearly the same number of students (42%) felt there was no such risk. The study by Niescioruk and Rutkowska [11] revealed that almost all physiotherapy students (91%) considered the patient's bodily fluids (containing HIV, among other things) to be a threat in the physiotherapist's work. Significantly fewer students considered factors such as mechanical overload, forced body position, or other pathogenic microorganisms to be important (55%, 46%, and 64% of respondents, respectively).

The majority of respondents (85%) believe that an HIV-infected person should inform their physiotherapist about their infection. There is no regulation mandating that an HIV-infected person must inform the third party about their condition. The exception is the sexual partner, who should be aware of the risk of infection and follow safe sex guidelines. On the other hand, medical personnel who have information about a patient's infection have a duty to keep that information confidential unless: the life of the patient or others is at risk, the patient has consented to the disclosure of the information, or there is a need to provide necessary information about the patient to medical personnel who provide health care services for this patient. Health care professionals should consider all patients as a potential source of infection and follow the recommenda-

tions for post-exposure prophylaxis if exposure to unknown biological material occurs [12].

People with HIV can and should take up employment to avoid being marginalized and gain confidence that it is possible to work and live normally. Knowledge of HIV transmission routes and the use of effective ART preclude the possibility of unknowingly infecting others. Likewise, no restrictions have been placed among the medical professions. HIV (+) individuals can work as doctors, nurses, obstetricians, or physiotherapists and rely on their work ethics [13]. The majority of the participants had a similar opinion (80%), although according to 9% of the students, an HIV-infected physiotherapist should not work in the profession. In a similar questionnaire conducted among nurses, 43% were against HIV-infected individuals working/learning with healthy individuals [10].

HIV infection has been undergoing a sort of transformation for several years – from a progressive and terminal disease to a chronic condition requiring more or less medical attention. The patient's picture is also changing – those who take ART regularly do not require hospitalization, only life-enhancing interventions that can be provided on an outpatient basis. Services can be provided in health care facilities and popular fitness clubs or gyms. Moreover, to ensure that patients receive professional help, it is necessary to break stereotypes, improve the knowledge and skills of medical professionals, and make them (and patients) aware of the role of physiotherapy [9].

Conclusions

Physiotherapy students presented a sufficient level of knowledge regarding HIV infection. No statistically significant differences in knowledge were observed between male and female groups. There is a prevalence of partial acceptance towards people with HIV among physiotherapy students. However, the vast majority of participants believe that the degree program does not adequately educate future physiotherapists in the area of infectious diseases.

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