Puszkarz Irena. Sexually transmitted diseases still an existing problem. Journal of Education, Health and Sport. 2017;7(1):74-83. eISSN 2391-8306. DOI http://dx.doi.org/10.5281/zenodo.231089
http://ojs.ukw.edu.pl/index.php/johs/article/view/4142

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part B item 754 (09.12.2016).
754 Journal of Education, Health and Sport eISSN 2391-8306 7

The authors declare that there is no conflict of interests regarding the publication of this paper.
Received: 05.12.2016. Revised 20.12.2016. Accepted: 05.01.2017.

Sexually transmitted diseases still an existing problem

Irena Puszkarz

Jan Kochanowski University in Kielce. Healthcare and Health Science Department

Key words: Sexually transmitted diseases, epidemiological situation, danger

Abstract

Increasing number of cases of STD is an alarming issue. It is a cause of serious health consequences within society and concern for public health. According to WHO 2/3 of STD affect young people (around 20 years old). The aim of the study is examine the epidemiological situation with selected STD in Poland in 2015. The study has been based on literature and data related to incidence of syphilis, gonorrhoea, chlamydia, HIV and HPV infections. The data has been obtained from the National Institute of Public Health – National Institute of Hygiene, National AIDS Centrum and National Oncology Register. In 2015 within Poland there have been 1338 incidences of early and late syphilis, on average 3.22 per 1 thousand people. The incidence of congenital syphilis has decreased from 20 cases in 2014 to 12 in 2015. There have been 441 incidences of gonorrhoea (on average 1.15/100 000). In 2015, 1295 people were diagnosed with HIV, 134 incidences of AIDS have been reported, 40 patients died. There were 220 cases of infections (0.57/100000) caused by chlamydia. Every year in Poland there are 4000 cases of malignant cervical cancer (4%) and 2400 of deaths because of cervical cancer. The epidemiological situation is affected by the lack of preventive and educational actions, low awareness of health within society and easy access to sex services. The National plan to fight STD should have a social character and it should ensure that there are sufficient funds necessary to conduct preventive and educational programs.

Introduction

An increased number of STD results in serious health consequences within societies. According to WHO, 2/3 of STD affect young people aged around 20 years old. Changing living conditions and the acceleration process results in changes in young people's behaviour [1]. The social changes that occurred in Poland towards the end of 20th century has impacted upon people's social behaviour. Puberty occurs within early ages resulting in an increased sense of liberalism. A study from the HBSC (Health Behaviour in School-aged Children) in 2013/2014 reported an increased number of sexual initiations with a decreased average age. Furthermore, 40% of teenagers whom start sexual life do not use condoms [2]. Sexual initiation starting too early, sexual intercourse without protection or the use of effective one, often with the use of psychoactive substances favour the spread of STD [1]. Currently there are around 40 diverse sexually transmitted microorganisms that are responsible for nearly 30 diseases [1]. Sexual intercourse is the primary means of spreading sexually transmitted diseases. Primary means transmission diseases are those that transfer via sexual contact these include but are not inclusive to (HBV, HCV). Gonorrhoea, syphilis, chancroid, inguinal poradentis and granuloma inguinale have been known as sexually transmitted diseases for centuries. Diseases described as "new generation STD" are: urogenital infections non related to gonorrhoea, genital herpes, HPV and HIV infections, also bacterial and trichomoniasis related vaginal infections, pubic lice and scabies [3]. Scientists highlight the synergism of infections in the genital area. Trichomonas vaginalis infection increases the risk of HIV infection by up to three times [4]. Literature related to pathogenesis of HIV in women indicates that those affected by HSV-2 who are co-infected are at an increased risk of HIV infection resulting in three times prevalence in women than men. Furthermore, women affected with vaginal dysbiosis are more often infected with HIV [5]. The risk of HIV infection increases in those with genital ulcers [6]. Those with a weakened immune system whom have a co-infection diagnoses of HIV and syphilis have protection against other infections reduced e.g. infections from Treponema pallidum infection [7]. Chronic chlamydiosis increases the risk of HPV type 16 viral infection and therefore cervical cancer [8]. The treatment of multiple STD is less effective than treatment of a singular infection [9].

Syphilis

Syphilis is the third most common sexually transmitted disease in Poland. The country experienced a drop in syphilis infections in years 1948-58. As the data directly showed no problems associated with that of syphilis there was a general consensus that syphilis was no longer a problem and as this was the impression it lead to lower preventive actions being taken. In the meantime, technical progress and urbanisation caused increased incidence of the disease [10]. Reportability was also a problem as doctors did not follow legal procedures of reporting new cases, therefore epidemiological data was incomplete. Furthermore, not all patients revealed names of their sexual partners. It lead to a lack of diagnoses of asymptomatic and early syphilis. The group at the highest risk consists mainly of women between 20 and 24 years of age and men between 35 and 39 years old. Within that group we can observe many homosexuals, sex workers, drug addicts, homeless, poor and those whom are deprived of medical care. In the beginning, syphilis can cause ulcers and rash, when in advanced stages it can damage the heart, brain and eyes leading to death. It can also be passed from mother to foetus. Early detection allows for protection of a developing child. When tests are neglected however this can affect the risks of a mother experiencing premature births or even suffering a miscarriage [11].

Tab. 1 Incidence of syphilis in Poland in all regions in 2015

Voivodeship	Early, late and indeterminated syphilis		Congenital and newborn syphilis	
	Number of new cases	Prevalence/100 tys	Number of new cases	Prevalence/ 100 000
dolnośląskie	52	1,79	2	7,62
kujawsko-pomorskie	55	2,63	-	-
lubelskie	33	1,54	1	5,07
lubuskie	25	2,45	1	10,62
łódzkie	80	3,20	4	18,09
małopolskie	133	3,95	-	-
mazowieckie	396	7,41	2	3,48
opolskie	35	3,50	-	-
podkarpackie	25	1,18	-	-
podlaskie	27	2,27	-	-
pomorskie	87	3,77	-	-
slaskie	104	2,27	-	-
swietokrzyskie	18	1,43	-	-
warmińsko-mazursk	43	2,98	1	7,62
wielkopolskie	182	5,24	3	8,16
zachodniopomorskie	43	2,51	-	-
total	1338	3,22	14	3,79

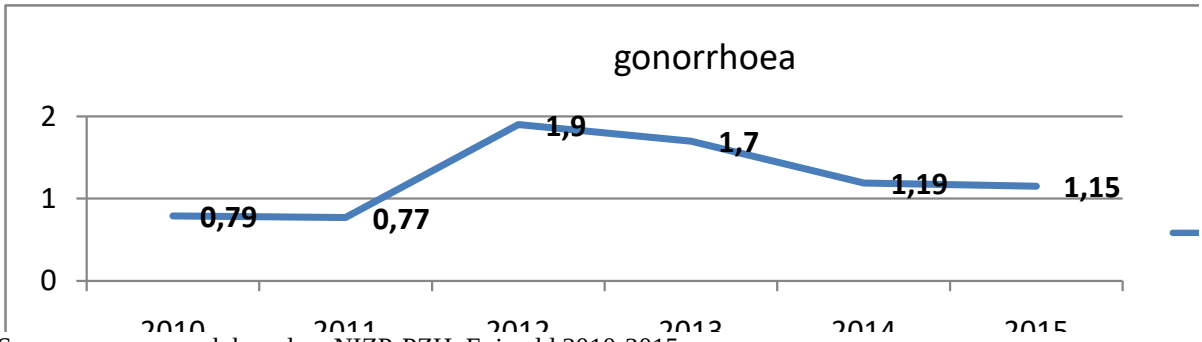
Source: own research based on NIZP-PHZ, Epimeld 2015

There were 1388 cases of early and late syphilis reported in 2015 in Poland, it was on average 3,22/100 000 of population. Significantly different factors were observed in individual voivodeships. The highest, twice as high as the national average was reported in mazowieckie voivodeship (7,41/100 000). Unfavourable situation was also observed in wielkopolskie (5,24/100 000) and Lodzkie (3,20/100 000) voivodeships. The lowest incidence was reported in the regions of Eastern Poland: podkarpackie (1,18), lubelskie (1,54), świetokrzyskie (1,43/100 000).

Gonorrhoea

Epidemiological situation in Poland between 2010 and 2015 (pic. 1) had variable character. After 2009, when 402 cases were reported (1.05/100 000) this was reduced to 0.78/100 000) which was a lower reported rate between 2010 – 2011, there was a rapid increase that was observed in 2012, when 733 cases were reported (1.9/100 000). Between 2014 and 2015 the reported number of cases fell to 450 (1.18/100 000) with significant differences being noted within a number of regions. The highest ratio in 2014 was observed in mazowieckie voivodeship (225 cases – 4.23/100 000). Much lower incidence was reported in zachodnio-pomorskie (29 cases – 1.69/100 000), kujawsko-pomorskie (27 cases – 1.29/100 000) and pomorskie region (27 – 1.17/100 000). Experts believe that data regarding gonorrhoea was incomplete due to lack of control and insufficient diagnosis. According to experts, it was important to review methods of lab diagnostics as well as the regional and national system of reporting new cases. This issue was crucially important due to the fact that Neisseria gonnorhoeae has grown more resistant to every new antibiotic introduced over the last few decades which diversely affect its efficiency within the treatment of gonorrhoea [12].

Pic. 1 Prevalence of gonorrhoea in Poland in years 2010-2015



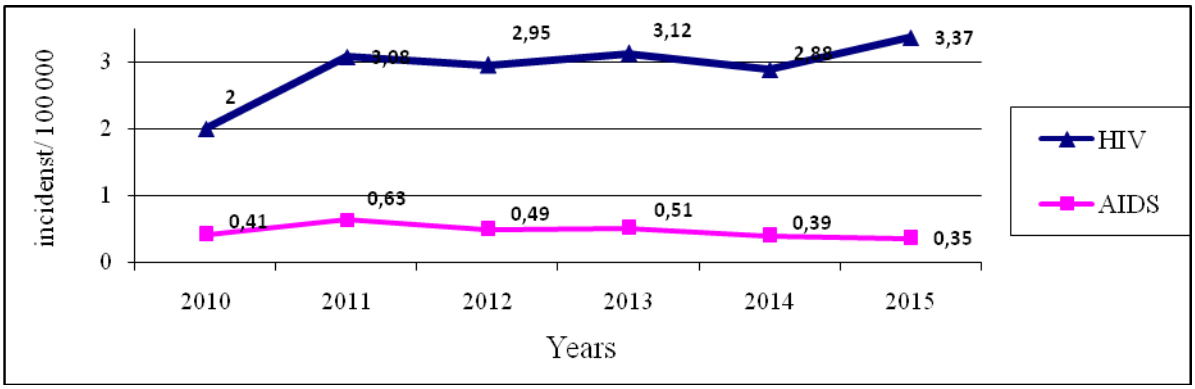
Source: own research based on NIZP-PZH, Epimeld 2010-2015

Picture 1 presents changes in prevalence of gonorrhoea in Poland between 2010 and 2015. Most cases (733) were reported in 2012 (1.90/100 000). Slight drop in cases was observed in 2014 (1, 19/100 000) and 2015 (1, 15/100 000).

HIV/ AIDS infections

HIV tests were introduced in Poland in 1985. From that time until 2016 there have been 20 973 people diagnosed with HIV, 3 425 reported cases of AIDS diagnosis and 1 354 patients died of the diagnosis. Most patients are studied where between the ages of 20 and 29 years old with Polish experts believing that approximately 50 to 70% of infected people in Poland are not aware of any infection. If these assumptions are true, Poland has over 50 thousands people living with HIV and only one in 4 is aware of their infection. Our country is one of the last ones on the list of European countries when considering number of HIV tests. It is worth mentioning that carrying out HIV test is the only way of eliminating or confirming infection. Recommendation to do such a test should be given to every person that engages in any sexual contact with another person without a condom or had sex with a partner without knowing their serologic status which also includes anybody with a history of substance abuse or use. Statistically, in Poland 2.5 people find out that they have been infected with HIV virus. In the first years of HIV epidemic, the most common way of spreading was using drugs the intravenous route and homosexual sex in men. From 2001 those trends changed as there are more heterosexual people, without drug addiction getting infected with HIV through unprotected sex. Most of infected people are men 82%). Antiretroviral treatment is free of charge and funded though program initiated by Ministry of Health – "Antiretroviral treatment of people living with HIV for years 2012-2016".

Pic. 2 Incidences of HIV/ AIDS in Poland between 2010-2015



Source: own research based on NIZP-PZH Epimeld 2010-2015.

Analysis of trends related to prevalence of HIV/AIDS in 2010-2015 indicates increased number of new cases of HIV with levels of incidence of AIDS staying on the same level. This fact may be an indication of effectiveness of antiretroviral therapy.

There were 1295 new cases of HIV infections, 129 cases of AIDS reported in 2015, 40 people died in the same year as a result of infection. The highest incidence was observed in

slaskie (475 cases – 5,4/100 000), dolnosląskie (135 cases – 4,65/100 000) and mazowieckie (248 cases – 4,64/100 000). The lowest numbers were documented in lubelskie (0,98/100 000), swietokrzyskie (1,1/0000)) and in podkarpackie voivodeships (1,36/100 000).

Chlamydia

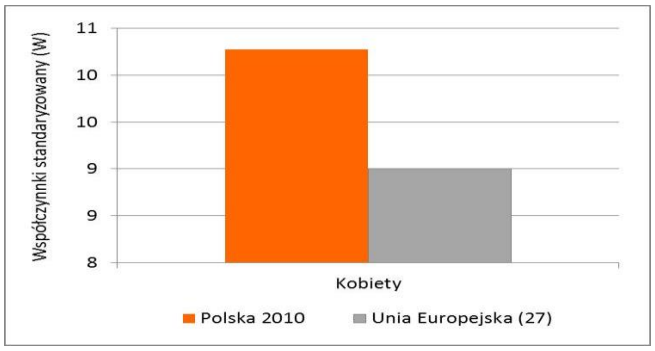
Chlamydia Trachomatis was isolated in 20th century as microorganism responsible for 70% of all non gonorrhoeae related urethritis. Currently it is main pathogen responsible for lower pelvis infections [14]. In Poland, frequency of infection in all tested groups is 20 – 40% [15]. According to research conducted by Mother and Child Institute in Warsaw, there are around 42 000 teenagers and around 30 000 young women infected by this bacteria. Immune system in maturing young women is weaker, therefore they are more at risk of pathological factors responsible for sexually transmitted diseases, including Chlamydia Trachomatis. Chlamydia Trachomatis infection is dangerous for pregnant women, as it can cause premature birth or perinatal death of foetus. Perinatal infections of new borns caused by this pathogen are responsible for conjuvitis or pneumonia [16]. According to researchers, exact number related to Chlamydia Trachomatis (CT) in women is not known, because most infections are asymptomatic. Moreover, some teenage girls are reluctant to disclose information about their sexual encounters. When symptoms occur, they may treat them as unsuspicious which will lead to late diagnosis and treatment [17]. There were 220 cases (0,57/100 000) of STDs caused by Chlamydia reported in 2015. wielkopolskie had the highest incidence, followed by mazowieckie, where there were 67 cases (1,25/100 000) documented. The lowest numbers in relations to chlamydia infections were observed in lubuskie, swietokrzyskie and warminsko-mazurskie (NIZP-PZH 2015). Infections caused by Chlamydia are most commonly diagnosed in people at their highest sexual activity period, between 20 and 39 years old. Incidence of chlamydia infections decreases with age.

Human Papiloma Virus (HPV)

Human Papiloma Virus is another threat for the population of 21st century. It is recognised by WHO (1996) as the virus responsible for developing cervical cancer. Incidence of HPV is significantly higher than incidence of cervical cancer. Almost two thirds of adults come in contact with HPV viruses, however most of these viruses are asymptomatic and pass. However, chronic infection with human papilloma virus, especially highly oncogenic HPV virus is common factor causing intraepithelial neoplasm of cervix and invasive cervical cancer. The most efficient form of prevention are immunisations and common smear test. In countries leading in these preventive actions, number of cases of cervical cancer decreased by

80%. In Poland, cervical cancer mortality rate is increasing as opposed to other developed country [18] with a staggering 4000 new cases being reported every year this doesn't digress from the fact that each year there is 2400 of those diagnosed terminal ill [19]. According to data gathered by National Oncology Register, malignant cervical cancer constitutes for 4% of all cancers. Around 60% of them develop in women between 45 and 64 years old. Risk of cervical cancer rises with age until the 6th decade of life (over 37/10^5), then it decreases in older than 60. Most deaths caused by HPV are reported in women between 50 and 69 years old (52%). After 7th decade of life ratio of mortality stays the same (10%). Currently it is observed that risk of death due to cervical cancer is increasing in the group of older women. Cervical cancer mortality in Poland is 70% higher than an average in EU [20].

Pic. 3 Comparison of cervical cancer mortality in Poland and the rest of EU countries



Sources: WojciechowskaUrszula, Didkowska Joanna. Malignant cancer incidence and mortality in Poland. National Oncology Register, Oncology Department – Maria Sklodowska-Currie Institute. Available on http://onkologia.org.pl/ (accesed on 26.06.2016).

Conclusions:

Analysis of epidemiological data and literature of the subjects suggests that the problem of STD is recognised, however the analysis proposed and practised solutions that do not guarantee safety of the polish population. According to experts, the epidemiological situation is affected by the lack of preventive and educational actions, low health awareness in society and easy access to sex services. The National plan to fight STD should have a social character and it should ensure that there are sufficient funds necessary to conduct preventive and educational programs. It is important that as the number of people infected with HIV through sexual intercourse continues to rise and the increasing prevalence of STD coinfections rise that with the rising ratios of STD infections in certain regions of Poland that this poses a genuine threat to the safety and wellbeing of young people embarking on their voyage into sexual life. Sexually transmitted diseases in teenagers and young women can lead to serious consequences. Therefore carrying out tests should be highly recommended by

medical professionals to allow early detection of infections and protection of women as well as their children. Authors of accessible publications highlight the fact, that there is a lack of complete and real picture of STD (it is thought that many infections are not reported or not correctly diagnosed). Specialists also stress that there number of tests conducted to detect asymptomatic syphilis is dropping [12]. Incomplete knowledge of risks, prevention methods and lack of symptoms lead to late diagnosis of the disease. Furthermore, those attempts to treat the infection delay professional diagnosis and lower chances of successful treatment. Long term effect of untreated infections are infertility or congenital syphilis in new born babies [21].

The most effective protection from STD is steady, long term and mutually faithful relationship of two partners. In case of young people chances for that kind of relationship are small. Risk of contracting STD does not deter young people from having sexual contacts, therefore it is important that information about prevention is passed to them [1]. Supporting sexual life hygiene in young, sexually active people is especially important to ensure public health. This study highlights the need of improving knowledge with regards to STD and posed the question whether polish youths are aware of the growing risks of infection.

References:

1. Izdebski Z. Wąż K. Zdrowie seksualne i reprodukcyjne młodzieży. Zdrowie Publiczne i Zarządzanie 2014; 12 (1): 48.
2. Mazur J. (red.): Zdrowie i zachowania zdrowotne młodzieży szkolnej w Polsce na tle wybranych uwarunkowań socjodemograficznych. Wyniki badań HBSC 2014. Instytut Matki i Dziecka, Warszawa 2015.
3. Mroczkowski T.F. Choroby przenoszone drogą płciową. Lublin. Czelej 2006.
4. Serwin A.B, Koper M. Rzęsistkowica - istotny czynnik ułatwiający zakażenie ludzkim wirusem upośledzenia odporności. Prz Epidemiol 2013; 67(1): 131-134.
5. Niemiec T, Rogowska-Szadkowska D, Wilczyńska A, El Midaoui-Niemiec A.Patogeneza i ryzyko zakażenia HIV u kobiet - przegląd aktualnego piśmiennictwa. Ginekol Pol 2009; 80(1): 41-46.
6. Duś M. Łuczkowska M. Żaba R. Owrzodzenia narządów płciowych jako wrota do zakażenia wirusem HIV. Post Dermatol Alergol 2009; 26 (4): 206-211.
7. Pastuszczak M, Snarska-Drygalska A, Wojas-Pelc A. Kiła i infekcja wirusem HIV - niebezpieczne połączenie. Opis przypadku. Dermatol Estet 2011; 13(6): 362-365.

8. Pawlikowska M, Deptuła W. Choroby u ludzi spowodowane chlamydiami i chlamydofilami. Postępy Hig Med Dosw 2007; 61: 708-717.
9. Walczak L, Dzieciątkowski T, Malejczyk M. i wsp. Mieszane zakażenie błon śluzowych narządów płciowych wirusem opryszczki pospolitej typu 1 oraz wirusem brodawczaka typu 6 - opis przypadku. Ginekol Prakt 2010; 105(2): 4-7.
10. Kaleta Koronowska S. 430 lat wenerologii polskiej. Nowiny Lek. 2010; 79(6): 487-494.
11. Majewski S, Rudnicka I. Choroby przenoszone drogą płciową w Polsce w 2011 roku. Prz Epidemiol 2013; 67(1): 379-381.
12. Serwin A.B. Koper M. Unemo M. Rzeżączka w XXI wieku – sytuacja na świecie i w Polsce. Przegl. Epidem. 2014; 68: 127-131.
13. Narodowy Instytut Zdrowia Publicznego Państwowy Zakład Higieny. Meldunki epidemiologiczne. http://www.pzh.gov.pl/oldpage/epimeld/hiv_aids - 5.05.2016r.
14. Suzin J, Kowalczyk-Amico K, Szubert M. Zasady rozpoznawania i leczenia infekcji żeńskich narządów płciowych Chlamydia trachomatis. Zakażenia 2009; 9(6): 24, 27-30.
15. Chudzicka-Strugała I.,et all Chlamydia trachomatis sexually transmitted infection (STI) infertility nested PCR. Ginekologia Polska 2014; 85:843-846.
16. http://www.choroby-weneryczne.com/ch/chlamydia-trachomatis.php dostęp 26.04.2016
17. Filipp E. Niemiec K. Kowalska B. Pawłowska A. Kwiatkowska M. Zakażenie Chlamydia trachomatis u aktywnych seksualnie nastolatek Ginekol Pol.2008, 79, 264-270
18. Didkowska J. Wojciechowska U. Zatoński W. Nowotwory szyjki macicy w Polsce – bilans otwarcia perspektywy. Gin Pol 2006; 77: 660-666.
19. Podolska M.Z, Kozłowska U, Bulsa M, Podolski J. Readiness of pedagogy and sociology students for the role of health educators in cervical cancer prevention. Zdr Publ 2012; 122: 189-194.
20. Wojciechowska U. Didkowska J. Zachorowania i zgony na nowotwory złośliwe w Polsce. Krajowy Rejestr Nowotworów, Centrum Onkologii - Instytut im. Marii Skłodowskiej - Curie. Strona http://onkologia.org.pl/raporty/ dostęp 25.05.2016.
21. Książek P. Herda J. Raszewska M. Kawałek M. Mojsym S. Bakteryjne choroby przenoszone drogą płciową-zagrożenie XXI wieku. Zdr. Publiczne 2011; 12 (2): 162-166.