Depression - is it also a problem for men?

Bejda G.*[1 A,B,C,D,E,F] , Kułak-Bejda A.[2 C,D,E]

1. The School of Medical Science in Białystok, Białystok, Poland
2. Department of Psychiatry, Medical University of Białystok, Bialystok, Poland

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ABSTRACT

Report of the Organization for Economic Co-operation and Development (OECD - Organization for Economic Co-operation and Development) and the European Commission entitled "Health at a Glance: Europe 2018" indicates that in 2016 in EU countries - 17.3% of the population, or approximately 84 million inhabitants of the Union, struggled with mental disorders such as depression, anxiety and use-related disorders. alcohol and drugs. In 2017, 3.1% of men in the European Union suffered from depression. The highest percentages of male with depression were found in Lithuania and Finland (approx. 4%), including Poland - 2.4% of men. In 2019, symptoms that may indicate depression were more common in 12.2% of men. The paper reviews the available literature on depression in men. The results are discussed in a sub-chapter:Introduction, Extent of depression, Clinical basis of male depression, Postpartum depression in men, Summary.
Keywords:depression, men, incidence.

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***Corresponding author**
Grzegorz Bejda, The School of Medical Science in Białystok, Krakowska 9 street
15-875 Białystok, Poland
e-mail: grzegorzbej@gmail.com

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INTRODUCTION

Mood disorders have been inherent in man since dawn - pleasures, and successes bring a good mood, and unpleasant events and losses cause sadness, fear, and despair. Descriptions of depression can be found in the Old Testament - the classic symptoms of depression were revealed by King Saul, who was possessed by an "evil spirit" and committed suicide. The example of a man affected by despair and depression also includes the description of Job's confessions [1].

The author of the oldest medical description of depression is Hippocrates - the "father of medicine" who lived in ancient Greece in the 4th century BC. He described several forms of temperament - including melancholic temperament. He considered the advantage of one of the four intracorporeal fluids to be a biological cause of depression. He also introduced the term "melancholia", which described mood disorders, periodic changes in mood, disease states and temperament until the beginning of the 19th century [1,2].

The very term "depression" is derived from Latin from the verb deprimere, which means "to press down, to crush", and the term "depression" was popularized by Meyer at the beginning of the 20th century, and the term affective disease used now - in 1966 Swiss psychiatrist - Jules Angst [3].

Disorders caused by depression cover many functions and concern various spheres of human functioning. McKenzie distinguished two groups of characteristic symptoms for depression: psychopathological and somatic [4].

The presence of a somatic disease is considered to be a significant risk factor for developing major depression [5-9]. Depressive symptoms are found in over 40% of people in hospitals for somatic reasons [10], and their severity does not depend on the severity of the underlying disease or the number of previous hospitalizations [10, 11]. According to Trickett, Depression is a disease of feelings. It includes relations that are too violent for normal sadness and gray nothingness" [12].

In the twentieth century, various symptoms of depression by gender began to be investigated concerning the diagnosis of the disease and the rates of death in suicide attempts [13].

EXTENT OF DEPRESSION

Report of the Organization for Economic Co-operation and Development (OECD - Organization for Economic Co-operation and Development) and the European Commission entitled "Health at a Glance: Europe 2018" indicates that in 2016 in EU countries - 17.3% of the population, or approximately 84 million inhabitants of the Union, struggled with mental disorders such as depression, anxiety, and use-related disorders, alcohol, and drugs. The survey covered 28 EU Member States, 5 candidate countries, and 3 European Free Trade Association countries [14].

The report shows that as many as 25 million Europeans (5.4% of the population) suffered from anxiety, 21 million (4.5%) had depression or depressive states, and 11 million (2.4%) were addicted to alcohol and drugs, approx. 1.5 million (0.3%) people had schizophrenia spectrum disorders. In addition, severe mental illnesses, such as bipolar disorder, affected nearly 5 million people (1% of the population) [14].

The Global Burden of Disease study conducted by the Institute for Health Metrics and Evaluation (IHME) allowed for the conclusion that depressive disorders (major depressions - F32, F33, and dysthymia - F34.1 according to ICD-10) were the second most common (after anxiety disorders) occurring mental disorders. In the European Union, depressive disorders affected 20.7 million people (4.2% of the population), and bipolar disorders - 4.5 million people (1% of the population) [15].

According to the Global Burden of Disease study in 2017, depressive disorders occurred in one million people (2.8% of the population), and bipolar disorders in 288,000 people (0.8% of the population), being 0.36 percentage points higher than in 2012 [16].

In Poland, depression was 1.27%, one of the lowest in the European Union. Only Romania and Bulgaria [17] had lower values.

According to ZUS data, in the third quarter of 2020, the number of sick days due to depressive episodes was over 1.23 million, while a year earlier, it was less than 961 thousand, while due to recurrent depressive disorders, it increased from 492 thousand, up to 575 thousand [18].

It is estimated that the prevalence of depression affects women twice as often as men [19], which was confirmed, for example, in the studies by Bergdahl et al. [20].

Sancheza et al. [21] found a greater severity of depressive symptoms in men than in women in people over 85 years of age.

In Poland, in 2010–2017, a slight downward trend was observed in the number of men suffering from depression [22]. The EZOP study conducted in Poland in 2008–2011 showed that 1.9% of men were affected by major depression. Throughout life, bipolar I disorder occurred in 0.1% of men from the study sample, as did bipolar II disorder - 0.1%. Dysthymia ever occurred in 0.4% of men during life [23].

In a study by Talarowska et al., the studied men obtained significantly lower results than women in the following test scales MMPI-2 (Minnesota Multiphasic Personality Inventory): hypochondria and hysteria and subscales D1, D3, and D4 of the depression scale [24].

Health data from the 2014 European Health Interview Survey confirms a significant difference in men's and women's well-being. It was found that one in nineteen men (5.3%) experienced chronic depression. Furthermore, the incidence of chronic depression increases with age. In the 55–64 age group, over 7.1% of men suffered from chronic depression. Between the ages of 65 - 74, the incidence decreased to 5.3% of men and increased in 75 and more to 6.5% of men [25].

In 2017, 3.1% of men in the European Union suffered from depression. The highest percentages of male patients with depression were observed in Lithuania and Finland (approx. 4%), including Poland - 2.4% of men [22]. In 2019, symptoms that may indicate depression were more common in 12.2% of men [26].

Interesting data was provided by the observational study by Dankowski et al., conducted from February to April 2021 in a group of patients who recently suffered from coronavirus disease (COVID-19) at least 28 days after diagnosis [27]. They showed that patients who have recently had COVID-19 show increased anxiety and symptoms of depression (more pronounced in women). The most commonly reported complaints were fatigue, cognitive impairment ("brain fog"), dyspnoea, and cough. The median of results for BDI (Beck Depression Inventory), state anxiety (STAI 1 - State Inventory and Anxiety Trait 1), and trait anxiety (STAI 2 - State Inventory and Anxiety Trait 2) was 7 (quartile range, IQR = 10), 38 (IQR = 13) and 40.5 (IQR = 14). Mild symptoms of depression were observed in almost 30% of patients. The results of BDI, STAI 1, and STAI 2 were significantly higher in women compared to men [27].

Data based on a systematic review of data from 5,683 sources on the prevalence of major depressive disorders and anxiety disorders during COVID-19 demonstrated an increased incidence of major depression. Women were more affected by the pandemic than men for major depression in anxiety disorders) and younger age groups were more affected than older age groups for major depression, for anxiety disorders. An additional 53.2 million cases of major depression worldwide (an increase of 27.6% [25.1 to 30.3]) were estimated due to the COVID-19 pandemic. An additional 76.2 million (64.3 to 90.6) anxiety disorders worldwide were also estimated (an increase of 25.6% [23.2 to 28.0]), so the overall incidence was 4802. 4 cases (4108.2 to 5588.6) per 100,000 inhabitants. In total, a major depressive disorder caused 49.4 million (33.6 to 68.7) DALYs (disability-adjusted life-years), and anxiety disorders caused 44.5 million (30.2 to 62.5) DALYs worldwide in 2020 [28].

Dankowski et al. [27], in a cross-sectional observational study from February to April 2021, examined patients who had recently suffered COVID-19 at least 28 days after diagnosis. Symptoms reported by patients were assessed, among others, using the Beck Depression Inventory (BDI) and the State-Trait Anxiety Inventory (STAI). The median scores for BDI, state anxiety (STAI 1), and trait anxiety (STAI 2) were 7 (quartile range, IQR = 10), 38 (IQR = 13) and 40.5 (IQR = 14), respectively. Mild symptoms of depression were observed in almost 30% of patients. The results of BDI, STAI 1, and STAI 2 were significantly higher in women compared to men [27].

Wenzel et al. [29] claim that men carriers of the depression gene often become addicted to alcohol. Newman et al. emphasize that generally accepted social norms allow the expression of depressive feelings (e.g. despair, crying in the face of loss), more by women than by men [30].

According to Purry et al. [31], in boys and men are dominated by the focus on behavioral symptoms (abulia, apathy, loss of motivation, discouragement). On the other hand, according to Li et al. [32], in difficult situations, the task-oriented style of coping with stress, focused on problem-solving, dominates.

The literature on the subject emphasizes that the symptoms of depression in men may differ significantly from that in women, and they do not occur in all depressive men [33-39].

Courtenay [40] thinks that the differences in the severity of depression symptoms in the group of men, compared to women, which are described in many studies, may result from an insufficient diagnosis of affective disorders in men and do not reflect the actual prevalence of the disease.

THE CLINICAL BASIS OF MALE DEPRESSION

The development of depression in a man, making him more prone to the breakdown of mental immunity, may include situations related to loss of work, sexual dysfunction caused by fatigue, alcohol abuse, chronic distress, loss of physical attractiveness or condition, the occurrence of somatic disease. The most common physical symptoms in men with depression are: chest tightness and pain, arrhythmias such as palpitations or faster heartbeat, persistent and recurring headaches, erection problems, impotence, endocrine disorders (e.g., low blood levels), testosterone), gastric problems, incl. bloating, constipation or diarrhea, sudden weight loss or significant weight gain [33-43].

Men seem to be more sensitive to life adversities than women [41,42], especially when they relate to the professional sphere (the phenomenon of imbalance between the effort put in the performance of a task and the reward obtained, effort-reward imbalance - ERI) [43]. Also, being in a stable relationship is not always a protective factor, and the risk of depression is higher among single men than single

women, regardless of the causes of loneliness (separation, divorce, death of a spouse) [44].

In the case of men, the existing social support network plays an important role as a protective factor (the more extensive it is, the lower the risk of depression is) [45]. In the case of men, the religious/spiritual aspect has a similar meaning [46]. Socio-cultural patterns are also important [47]. Among the requirements in our cultural circle are - independence, resourcefulness, strength or the ability to fight (bravery), mental and physical endurance (also for pain), mastery and suppression of feelings, and avoiding everything that is "feminine" (treated as signs of weakness). and failure to cope) [33, 35, 47-51].

The study by Herbison et al. [52] showed that strong stress stimuli present in the early stages of fetal life were of key importance in the development of anxiety-depressive symptoms in a group of young male adults. Also, being a victim of domestic violence in childhood and adolescence was a significant risk factor for male depression [53].

The mental and emotional signs of male depression are sadness, depressed mood, difficulty concentrating, memory impairment, so-called racing thoughts, obsessive thinking (so-called manic thought patterns), trouble sleeping (insomnia or short, interrupted sleep), suicidal thoughts and attempts [33-39]. According to WHO data, as of July 7, 2021, 184,324,026 confirmed COVID-19 cases have been reported worldwide, including 3,992,680 deaths reported to WHO. The highest number of deaths occurs in North and South America than in Europe and Southeast Asia [54]. The highest excess although Poland, like the Czech Republic, Slovakia, Hungary, Denmark, Finland, Bulgaria, and Australia, was one of the countries that avoided a detectable increase in all-cause mortality in the first wave of the COVID-19 epidemic (end of May 2020) [56], this transformed in the second half of 2020. The study shows that Poland is one of the countries where excessive mortality was observed during the COVID-19 pandemic, comparing the number of deaths in 2019-2020 [56].

An international study on the impact of a pandemic on the number of suicides in the period from March 1, 2020, to October 30, 2020, was conducted by researchers from the International COVID-19 Suicide Prevention Research Collaboration [57]. They managed to obtain and analyze data from 21 countries (mainly high and middle-income countries), including data from the entire area of a given country (usually data collected by the police); they were obtained from only ten countries: Poland, Estonia, Croatia, the Netherlands, Japan, South Korea, New Zealand, Chile, Peru, and Ecuador. Suicide rates have decreased or not increased in most countries studied and increased in Austria, Japan, and Puerto Rico [57]. A retrospective study analyzing changes in suicide rates in Nepal during the COVID-19 pandemic (April 2020 to June 2021) compared to the pre-pandemic period (July 2017 to March 2020), adjusted for seasonality and trend of the suicide rate, was conducted by Acharya et al. [58]. A total of 24,350 suicide deaths over the four-year study period were analyzed, and found an overall increase in Nepal's monthly suicide rate, with an average increase of 0.28 (CI: 0.12, 0.45) suicides per 100,000 during the pandemic months. The increase in the suicide rate was significant both among men (increase in the rate = 0.26, CI: 0.02.0.50) and women (increase in the rate = 0.30, CI: 0.18.0.43). The most striking rise in suicide rates was observed in June, July, and August 2020. The pattern of the rise in suicide rates declined early among men, but the effect was sustained for a longer period among women. Sudurpaschim and Karnali provinces saw the highest increases in suicide rates related to the COVID-19 pandemic [58]. On the other hand, the research by Calati et al. [59] from Italy in 2020, the number of recorded suicides decreased compared to 2016-2019 (21.19-22.97% of autopsies), amounting to 98 (18.08% out of 542 autopsies), while in the first four months of 2021 - 35 suicides (185 autopsies in total) [59]. In Poland, there was an increase in deaths in 2021 compared to the average for 2017-2019 - 26.86%. [60].

Depressed patients tend to go to extremes, suddenly shifting from excitement to total resignation [33-39]. They lose interest in work, their relatives, and what is happening in their environment. Their libido decreases, and their intimate life becomes indifferent to them. Withdrawal from social life causes closure in your world, a sense of hopelessness, pointlessness, and purpose. The patient develops anger at the current situation and an inept attempt to deal with it on his own by using psychoactive substances, alcohol abuse, compulsive smoking, daring driving, taking risky actions, such as reckless driving or having unprotected sex, gambling, compulsive eating, addiction to games, cyber sex, and social media [33-39]. Addis and Mahalig suggest that the most common causes of depression in men are related to professional and legal problems [61]. Externalizing symptoms are noted more often in men than in women [62]. In men, a correlation was also found between the number of earnings and suicidal behavior [63]. Men significantly more often attempt suicide than women. [50]. In the group of teenage boys, the relationship between depression and suicidal thoughts and behaviors decreased significantly with increasing forgiveness and conflict alleviation abilities [64]. Cleary [65] conducted in-depth interviews in psychiatric hospitals with 52 young men after a serious suicide attempt. These men experienced a very high level of emotional suffering (pain), which they did not disclose to those around them; they were also unable to identify their symptoms and did not seek help accurately. In order to cope with the perceived psychological pain, the respondents

most often used alcohol or drugs, which worsened their condition, and finally led to a situation where death seemed to be the only solution [65].

Numerous analyses indicate that men die due to suicide attempts 3–10 times more often than women, and this regularity was noticeable in all age groups. In some countries, such as Hungary, Lithuania, Latvia, and Belarus, deaths predominated as a result of attempted suicide is particularly significant in men [66]. At this point, it is worth quoting the data from the Police Headquarters. Every year in Poland, over 5,000 people take their own lives. 8 out of 10 are male [77]. According to the data of the Police Headquarters, only in 2020, 84 percent, men committed suicide. Out of 5165 people who took their own lives, there were 4,386 people. In the first five months of 2021, there were almost 5.7 thousand, suicide attacks (women - nearly 1.7 thousand, men - less than 4 thousand) vs. the same period last year - 4.8 thousand (women - 1.3 thousand, men - 3.5 thousand). This result is greater than that observed two years over the same period - 4.9 thousand. (women - 1.3 thousand, men - 3.6 thousand). In the analyzed period, as many as 2.2 thousand suicide bombings ended in death. However, taking into account the data on trials in particular periods, it can be seen that the percentage of deaths decreased slightly (estimated period - 38.9%, 2020 - 42.5%, 2019 - 43.4%). In 70 cases, the cause of a self-killing attempt was a loss of the source of income. The most frequently chosen site of a suicide attack was a house or apartment. In the first five months of 2021, this was the case in 3.5 thousand. of cases, in 2020 - 2.7 thousand, and in 2019 - 2.8 thousand. Suicide bombings most often took place on Mondays (2021 - 898, 2020 - 728, 2019 - 756), less frequently in 2021, it was Sunday (849), and the least frequent was Wednesday (744) [67].

POSTPARTUM DEPRESSION IN MEN

The problem of postpartum depression (PPD) in men is not uncommon. The scale of postpartum depression in Poland is not known, but a meta-analysis of 43 studies from different countries with 28,004 participants (excluding duplicate reports and data) indicates that this problem affects 10-20% of men worldwide [68]. Socio-cultural patterns may play a significant role here because, for example, in India, men more often suffer from depression after the birth of a child, if it is a girl [69]. For example, a reduction in testosterone levels (which probably occurs after childbirth so that the young father does not experience aggression and can more easily establish a bond with his offspring) or the deficiency of prolactin or cortisol in the male body may contribute to the development of this type of depression. In addition, the arrival of offspring into the world may arouse various emotions in a young dad [68,69]. The reason may also be changed in the relationship of young parents. After a child is born into the world, a woman often directs most of her attention to him, which may be unpleasant for a young father. It is also important what was the influence of pregnancy and childbirth on the mental state of the mother - if she suffers from postpartum depression, the risk of a similar problem in her partner is significantly increased.

Events that a young dad himself experienced in the early years of his life may predispose him - an increased risk of this type of depressive disorder [68,69]. Other possible symptoms of male postpartum depression include avoidance of contact with other people; changed appetite, sleep problems a tendency to escape into addictions); unspecified, unjustified fear and worry; reluctance to look after the child, making various attempts to avoid custody; reduced willingness to engage in sexual contact as well as sadness and depression [68,69].

Paulson and Bazemore analyzed identified cases of male postpartum depression - a total of 43 studies with 28,004 participants after excluding duplicate reports and data. Information on the incidence of depression in fathers and mothers, as well as on reported depressive correlations from the father and mother sides, was separated independently by two evaluators. The study used random effect models of the frequency of events due to the significant heterogeneity. The moderator's analyzes included time, measurement method, and study location. Study quality ratings were calculated and used for sensitivity analysis. Publication bias was assessed using funnel charts and the Egger method. There was significant heterogeneity among the rates of paternal depression, with a meta-estimate of 10.4% (95% confidence interval [CI], 8.5% -12.7%). Higher rates of depression were noted in the postpuerperal period from 3 to 6 months (25.6%; 95% CI, 17.3% -36.1%). The correlation between father and mother depression was positive and moderate ($r = 0.308$; 95% CI, 0.228-0.384) [70].

Research by Duan et al. [71] In the period from March 2017 to December 2018, they surveyed 950 couples. The study was conducted using a standardized questionnaire that contained basic demographic information, information on the mother-in-law's relationship with her daughter-in-law, marriage satisfaction (both on the mother's and father's side), and PPD symptoms. In 4.4% of couples, both the wife and husband showed depressive symptoms. The mothers' satisfaction from marriage showed a significant indirect effect on the father's PPD ($B = -0.114$, $p < 0.01$) and a direct effect of the mother's PPD on the father's PPD ($B = 0.31$, $p < 0.001$) [71].

Scarff [72] emphasizes that there are no established criteria for male postpartum depression. However, it may manifest itself over the year with irritability symptoms that limit emotions and depression. Therefore, clinicians are encouraged to screen for male depression in the first year after giving birth

and offer treatment or referral for treatment if you have depression.

Research by Leśniewska et al. [73] showed that the fathers saw the problem of the lack of education in the field of health care concerning their needs in the perinatal period and the lack of specialist support. They were also aware that a disturbing mental state prevented them from taking full responsibility for the family and burdened the mother mentally. The authors emphasize that, at the same time, a bad relationship is a risk factor for PPPD, and postpartum depression in men poses a danger to their newborn babies, who are in the period of their development when they are particularly vulnerable [73].

SUMMARY

Depression in men is an underestimated phenomenon in terms of its prevalence and seriousness of the disorder. This may be mainly due to men's difficulty in admitting they are depressed both to others and themselves. Depression is seen as a weakness a man should not afford, a problem he cannot deal with, and a threat to his masculinity. Moreover, depression in men is diagnosed much less often because men hide from it and do not admit their complaints to themselves or their families. They also very often mask their depression in different ways. Reluctance to seek help is a consequence of the prevailing stereotypes and differences in the upbringing of girls and boys. From an early age, men are taught to be strong and resourceful; they must not show weakness. In childhood, they are allowed to cry for a much shorter time than girls who display their sadness openly. In addition, parents have fewer conversations with boys, and ask fewer questions but rather give them orders or encourage them to perform tasks. Another obstacle that men encounter on their way is their lower ability to talk about feelings. Depressive men, more often than women, seek help and use dysfunctional patterns of coping with stress more often, and diagnostics focuses more on symptoms typical of women. Therefore, further, in-depth studies of male depression are needed with Möller-Leimkühler et al. [74] and Addis [75] different age and ethnic groups, health, and sick people, as well as the possibility of comorbidities (including personality disorders, primary addictions, and ADHD).

ORCID

Grzegorz Bejda
https://orcid.org/0000-0002-4829-0292
Agnieszka Kułak-Bejda
https://orcid.org/0000-0001-6334-9371

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Conflicts of ınterest

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REFERENCES

1. Bielski T., Markowski W.: Pismo Święte Starego i Nowego Testamentu. Wydawnictwo Pallotinum, Poznań-Warszawa, 1980 (Polish).
2. Pitucha M, Samek A.: Depresja, jej poziom i obraz. Ilustracja w oparciu o badanie testem MMPI. Kraków, 1996 (Polish).
3. Pużyński S.: Depresje i zaburzenia afektywne. Wyd. Lekarskie PZWL, Warszawa, 2008 (Polish).
4. McKenzie K.: Poradnik medyczny. Depresja. Wyd. Wiedza i Życie, Warszawa 2011 (Polish).
5. Crum R.M., Cooper-Patrick L., Ford D.E. Depressive symptoms among general medical patients: prevalence and one-year outcome. Psychosom. Med. 1994 Mar-Apr;56(2):109-17.
6. Patten S.B. Long-term medical conditions and major depression in the Canadian population. Can. J. Psychiatry 1999; Mar;44(2):151-7;
7. Wells K.B., Golding J.M., Burnam M.A. Psychiatric disorder in a sample of the general population with and without chronić medical conditions. Am. J. Psychiatry 1988; Aug;145(8):976-81.
8. Ganzini L., Smith D.M., Fenn D.S., Lee M.A. Depression and mortality in medically ill older adults. J. Am. Geriatr. Soc. 1997; Mar;45(3):307-12.
9. Koenig H.G., George L.K., Peterson B.L., Pieper C.F. Depressionin medically ill hospitalized older adults: prevalence, characteristics, and course of symptoms according to six diagnostic schemes. Am. J. Psychiatry 1997; Oct;154(10):1376-83.
10. Rosenberg S.J., Peterson R.A., Hayes J.R., Hatcher J., Headen S. Depression in medical inpatients. Br. J. Med. Psychol. 1988; 61(3): 245–54.
11. Wise T.N., Rosenthal J.B. Depression, illness beliefs and severity of illness. J. Psychosomat. Res. 1982; 26(2):247-53.
12. Trickett S.: Lęk i depresja. Wyd. Jedność, Kielce, 1996 (Polish).
13. Chodkiewicz J., Miniszewska J. - Męska depresja – koncepcja, metody pomiaru i związki z zachowaniami samobójczymi, Psychiatr Psychol Klin 2016: 16(1): 33–7 (Polish).
14. OECD/EU, Health at a Glance: Europe 2018, State Of Health In The EU Cycle, 2018
15. Health Metrics and Evaluation (IHME) [Internet], [cited 2022 May 11]. Available from: https://www.un.org/sites/un2.un.org/files/un_policy_brief-covid_and_mental_health_final.pdf

16. Global Burden of Disease STUDY 2017, IHME, 2020; [Internet], [cited 2022 May 11]. Available from https://www.healthdata.org/sites/default/files/files/policy_report/2019/GBD_2017_Booklet.pdf
17. Health Metrics and Evaluation (IHME) [Internet], [cited 2022 May 11]. Available from https://www.healthdata.org/.
18. [Internet], [cited 2022 May 11]. Available from: https://www.zus.pl/documents/10182/39590/bsencja+chorobowa_raport_2020.pdf/6ba50f53-bbab-dc1c-f4bf-f874fdbc2561 (Polish).
19. Łoza B., Parnowski T. Nowa depresja. Nowe leczenie. Wyd. Medical Education, Warszawa, 2012. (Polish).
20. Bergdahl E, Allard P, Alex L, Lundman B, Gustafson Y. Gender differences in depression among the very old. International Psychogeriatrics 2007; Dec;19(6):1125-40.
21. Sanchez M, Levenson M, Buz J, Aldwin C. Gender and age differences in depression on sample of spanish elderly. Gerontol. 2008; 48: 172
22. NFZ o Zdrowiu. Depresja, Centrala Narodowego Funduszu Zdrowia, Warszawa, 2020 (Polish).
23. Kiejna A., Adamowski T., Piotrowski P., Moskalewicz J., Wojtyniak B., Świątkiewicz B., Stokwiszewski J., Kantorska-Janiec M., Zagdańska M., Kessler R.C. Raport z badań „Epidemiologia zaburzeń psychiatrycznych i dostęp do psychiatrycznej opieki zdrowotnej - EZOP Polska", Psychiatr. Pol. 2015; 49(1):5–13 (Polish).
24. Talarowska M., Florkowski A., Zboralski K., Gałecki P: Różnice w przebiegu depresji między kobietami a mężczyznami stwierdzone na podstawie testu MMPI-2, Psychiatr Pol, 2010; 64(3): 319–328 (Polish).
25. Zdrowie psychiczne w Unii Europejskiej. Opracowania tematyczne OT–674, Biuro Analiz, Dokumentacji i Korespondencji, Kancelaria Senatu, Warszawa, 2019 (Polish).
26. Stan zdrowia ludności Polski w 2019, Źródło danych GUS, Internet], [cited 2022 May 11]. Available from https://stat.gov.pl/obszary-tematyczne/zdrowie/zdrowie/stan-zdrowia-ludnosci-polski-w-2019-r-,26,1.html (Polish).
27. Dankowski R., Sacharczuk W., Duszyńska D.. Mikołajewska W., Szałek-Gorlaewksa A., Łojko-Dankowska A., Szyszka A., Łojko D. Depression and anxiety in patients recently recovered from coronavirus disease (COVID-19). Neuropsychiatry and Neuropsychology, 2021; 1-2: 11-6.
28. COVID-19 Mental Disorders Collaborators. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. Lancet, 2021 Nov 6; 398(10312):1700-12.
29. Wenzel A, Steer RA, Beck AT. Are there any gender differences in frequency of self-reported somatic symptoms of depression? J. Affect. Disord. 2005; 2005 Dec;89(1-3):177-81.
30. Newman J, Fuqua D, Gray E, Simpson D. Gender differences in the relationship of anger and depression in a clinical sample. J. Counsel. Develop. 2006; 84(2): 157–61.
31. Puura K, Almqvist F, Tamminen T, Piha J, Kumpulainen K, Rasanen E, Moilanen I, Koivisto AM. Children with symptoms of depression – what do the adults see? J. Child Psychol. Psychiatry 1998; May;39(4):577-85.
32. Li C, DiGiuseppe R, Froh J. The roles of sex, gender, and coping in adolescent depression. Adolesc. 2006; Fall;41(163):409-15.
33. Magovcevic M, Addis ME: The Masculine Depression Scale: development and psychometric evaluation. Psychol Men Masc 2008; 9(3): 117–32;
34. Martin LA, Neighbors HW, Griffith DM: The experience of symptoms of depression in men vs women: analysis of the National Comorbidity Survey Replication. JAMA Psychiatry 2013; Oct;70(10):1100-6.
35. Rice SM, Fallon BJ, Aucote HM, Möller-Leimkühler A.M.: Development and preliminary validation of the Male Depression Risk Scale: furthering the assessment of depression in men. J Affect Disord 2013; Dec;151(3):950-8.
36. Rutz W, Wälinder J, Von Knorring L, Rihmer Z., Pihlgren H.: Prevention of depression and suicide by education and medication: impact on male suicidality. An update from the Gotland study. Int J Psychiatry Clin Pract 1997; 1(1): 39–46.
37. Sher L: Per capita income is related to suicide rates in men but not in women. J Mens Health Gend 2006 March; 3(1): 39–42.
38. Walinder J, Rutz W: Male depression and suicide. Int Clin Psychopharmacol 2001; Mar;16 Suppl 2:S21-24.
39. Winkler D, Pjrek E, Kasper S: Anger attacks in depression – evidence for a male depressive syndrome. Psychother Psychosom 2005; 74(5):303-7.
40. Courtenay WH. Engendering health: social constructionist examination of men's health beliefs and behaviours. Psychol. Men Mascul. 2000; 1(1): 4–15.
41. Assari S, Lankarani MM. Association Between Stressful Life Events and Depression; Intersection of Race and Gender. J Racial Ethn Health Disparities 2016; Jun;3(2):349-56.

42. Acciai F, Hardy M. Depression in later life: A closer look at the gender gap. Soc Sci Res 2017; Nov;68:163-75.
43. Wege N, Li J, Siegrist J. Are there gender differences in associations of effort-reward imbalance at work with self-reported doctor-diagnosed depression? Prospective evidence from the German Socio-Economic Panel. Int Arch Occup Environ Health 2018; May;91(4):435-43.
44. Bulloch AGM, Williams JVA, Lavorato DH, Patten SB.The depression and marital status relationship is modified by both age and gender. J Affect Disord 2017; Dec 1;223:65-68
45. Zadravec Šedivy N, Podlogar T, Kerr DCR , De Leo D. Community social support as a protective factor against suicide: A gender-specific ecological study of 75 regions of 23 European countries. Health Place 2017; Nov;48:40-6.
46. Kralovec K, Kunrath S, Fartacek C., Pichler EM., Plöderl M.The Gender-Specific Associations Between Religion/Spirituality and Suicide Risk in a Sample of Austrian Psychiatric Inpatients. Suicide Life Threat Behav 2018; Jun;48(3):281-93.
47. Anyan F, Hjemdal O. Stress of home life and gender role socializations, family cohesion, and symptoms of anxiety and depression. Women Health 2018; May-Jun;58(5):548-64.
48. Jobson L, Miskon N, Dalgleish T., Hitchcock C, Hill E., Golden A.M, Sheereen Zulkefly NS, Mukhtar F.: Impact of culture on autobiographical life structure in depression. Br J ClinPsychol. 2018; Sep 1; 57(3): 382–96.
49. Cochran SV, Rabinowitz FE: Gender-sensitive recommendations for assessment and treatment of depression in men. Prof Psychol Res Pr 2003; 34(2): 132–40.
50. Chang Q, Yip PSF, Chen YY. Gender inequality and suicide gender ratios in the world. J Affect Disord 2019 Jan; 243(15): 297-304.
51. Sher L: Suicide in men. J Clin Psychiatry 2015; Mar;76(3):e371-2.
52. Herbison CE, Allen K, Robinson M., Newnham J., Pennell C. The impact of life stress on adult depression and anxiety is dependent on gender and timing of exposure. Dev Psychopathol 2017; Oct;29(4):1443-54.
53. Pompili M, Innamorati M, Lamis DA, Erbuto D., Venturini P., Riccci F., Serafini G., Amore M., Girardi P. The associations among childhood maltreatment, "male depression" and suicide risk in psychiatric patients. Psychiatry Res 2014; Dec 15;220(1-2):571-8.
54. WHO . COVID-19 2021 [Internet], [cited 2022 May 11]. Available from: https:/ /covid19. who.int/
55. Islam N, Shkolnikov VM, Acosta RJ, Klimkin I, Kawachi I, Irizarry RA, Alicandro G, Khunti K., Yates T., Jdanov D.A., White M., Lewington S., Lacey B.. Excess deaths associated with covid-19 pandemic in 2020: age and sex disaggregated time series analysis in 29 high income countries. BMJ. 2021 May; 19;373:n1137
56. Kontis V, Bennett JE, Rashid T, Parks RM, Pearson-Stuttard J, Guillot M, Asaria A, Zhou B., Battaglini M, Corsetti G, McKee M., Di Cesare M., Mathers C.D, Ezzati M. Magnitude, demographics and dynamics of the effect of the first wave of the COVID-19 pandemic on all-cause mortality in 21 industrialized countries. Nat Med. 2020 Dec;26(12):1919-1928.
57. Pirkis J, John A, Shin S, et al. Suicide trends in the early months of the COVID-19 pandemic: an interrupted time-series analysis of preliminary data from 21 countries. Lancet Psychiatry. 2021 Apr 13:S2215-0366 (21)00091-2
58. Acharya B., Subedi K., Acharya P., Ghimire S. Association between COVID-19 pandemic and the suicide rates in Nepal. Plos One, 2022 Jan 24;17(1):e0262958
59. Calati R., Gentile G., Fornaro M., Tambuzzi S., Zoja R. Preliminary suicide trends during the COVID-19 pandemic in Milan, Italy, J Psychiatr Res, 2021 Nov;143:21-2.
60. Rogalska A., Śyrkiewicz-Świtała M. COVID-19 and Mortality, Depression, and Suicide in the Polish Population, Front Public Health 2022 Mar 16;10:854028.
61. Addis ME, Mahalik JR: Men, masculinity, and the contexts of help seeking. Am Psychol 2003; Jan;58(1):5-14.
62. Genuchi MC, Mitsunaga LK: Sex differences in masculine depression: externalizing symptoms as a primary feature of depression in men. J Mens Stud 2015; 23(3): 243–51.
63. Sher L: Per capita income is related to suicide rates in men but not in women. J Mens Health Gend 2006 March; 3: 39–42
64. Quintana-Orts C, Rey L. Forgiveness, Depression, and Suicidal Behavior in Adolescents: Gender Differences in this Relationship. J Genet Psychol 2018; Mar-Apr;179(2):85-9.
65. Cleary A: Suicidal action, emotional expression, and the performance of masculinities. Soc Sci Med 2012; Feb;74(4): 498-505.
66. Sher L: Suicide in men. J Clin Psychiatry 2015 Mar;76(3):e371-2.
67. [Internet], [cited 2022 May 11]. Available from: https://www.money.pl/gospodarka/ fa talne-statystyki-dotyczace-samobojstw-coraz -

czesciej-powodem-sa-finanse-66670944923
55456a.html
68. Paulson J.F., Bazemore S.D.: Prenatal and Postpartum Depression in Fathers and Its Association With Maternal Depression, JAMA, 2010 May 19;303(19):1961-69
69. Goyal K, Purbiya P, Lal SN, Kaur J., Anthwal P., Puliyel J.M. Correlation of Infant Gender with Postpartum Maternal and Paternal Depression and Exclusive Breastfeeding Rates. Breastfeed Med 2017; Jun;12:279-82.
70. Paulson J.F., Bazemore S.D. Prenatal and Postpartum Depression in Fathers and Its Association With Maternal DepressionA Meta-analysis.JAMA. 2010; May 19; 303(19): 1961-9.
71. Duan Z., Wang Y., Jiang P., Wilson A., Guo Y., Ly Y., Yang X, Yu R., Wang S., Wu Z., Xia M., Wang G., Tao Y., Xiaohong L., Shen H., Sun J., Deng W., Yang Y., Chen R. Postpartum depression in mothers and fathers: a structural equation model, BMC Pregnancy and Childbirth 2020 Sep 15;20(1):537
72. Scarff J.R. Postpartum Depression in Men, Innov Clin Neurosci. 2019 May 1; 16(5-6): 11–4.
73. Möller-Leimkühler AM, Paulus NC, Heller J: Male Depression bei jungen Männern. Blickpunkt der Mann 2009; 7(4): 15–20
74. Addis ME: Gender and depression in men. Clin Psychol Sci Prac 2008 Aug; 15: 153–68.