

ADDICTIONS WITHOUT DRUGS: CONTEMPORARY ADDICTIONS OR WAY OF LIFE?

Romana Babić^{1,2,3}, Dragan Babić^{1,2,3}, Marko Martinac^{2,3,4}, Marko Pavlović^{1,2,3}, Ivan Vasilj^{2,3},
Miro Miljko^{2,3} & Marina Vasilj^{2,3,5}

¹Department of Psychiatry, University Clinical Hospital Mostar, Mostar, Bosnia and Herzegovina

²School of Medicine, University of Mostar, Mostar, Bosnia and Herzegovina

³Faculty of Health Studies, University of Mostar, Mostar, Bosnia and Herzegovina

⁴Health Center Mostar, Mostar, Bosnia and Herzegovina

⁵Department of Laboratory Medicine, University Clinical Hospital Mostar, Mostar, Bosnia and Herzegovina

SUMMARY

In the five thousand years of recorded history there is written evidence of various types of addiction. In recent decades scientists focus their attention on addictions without the immediate introduction of psychoactive substances into the organism or the so-called "addictions without drugs". Studies have revealed a number of similarities between drug addictions and addictions without drugs that also carry biological, psychological and social consequences in the form of addictive activity cravings, adrenaline alarm, dopamine and serotonin secretion, tolerance and abstinence syndrome same as classical forms of addiction. Although the physiological effect of addiction without drugs on the brain and nervous system is not yet sufficiently explored, scientists have found equivalent effects on addicts suffering from one or the other type of addiction. These addicts are almost generally dysfunctional persons who become prisoners of their own passions, and the consequences are numerous technological advantages offered by modern times and in some respects a punishment due to the civilization for forgetting the man himself. Considering that most people, so and many psychiatrist, often accept these addictions as a lifestyle and without any delay and awareness of the potential dangers they may pose, we can with certainty say that the so-called "addictions without drugs" are the scourge of the 21st century. With pathological gambling, which is as old as human civilization, in recent decades we meet the growing problems of internet addiction, gambling games, which are classified for the first time at DSM V in addictive disorder, uncontrolled shopping, food cravings, addiction to sex, weight loss, sports, work and many more, which are mostly true addictions, and not only the way of life.

The aim of this paper is to point to the growing problem of addiction without drugs, which is becoming an increasing problem within our community.

Key words: contemporary – addictive – sick - style

* * * * *

INTRODUCTION

In the five thousand years of recorded history, it has been written that from the very beginning of mankind people have tried to make life more pleasant and beautiful in a variety of acceptable and unacceptable ways. In doing so, they used various means and methods which were occasionally and temporarily successful, but in the long term, the organic, mental and social aspects of their health were destroyed, individually or all three together. The reason for this is the emergence of addictions where pleasure quickly turns into suffering (Babić et al. 2016). The need for happiness, pleasure and acceptance is one of the basic human needs whose fulfilment has never been easier than it is today. Now we have the opportunity to "choose" our addiction and be completely socially accepted while "enjoying" in it, because it has become relatively easy to be dependant and remain unnoticed. As never before, we can say that in the twenty-first century addiction is a way of life for some people and it is socially acceptable for many who do not see any serious risk to health in it.

There are numerous definitions of addiction, but the most commonly used is the definition of the World Health Organization (WHO), which tried to replace the

earlier names of narcomania and toxicomania, since it is not always an addiction to narcotics or toxins. The WHO defines addiction as state psychic and sometimes also physical, resulting from the interaction between a living organism and a drug, characterized by behavioural and other responses, that always include a compulsion to take the drug on a continuous or periodic basis in order to experience its psychic effects, and sometimes avoid discomfort of its absence. Tolerance may or may not be present (Group Author 2004, World Health Organization 2009). A decisive factor in the development of addiction is our primary organization as human beings, and the factors that determine who will become addicted or not can be overcome in many cases. Pleasant activities stimulate brain reactions that make this experience a pleasure, and this further encourages them to continue and repeat the actions that lead to such a state. This simple system of organization is present in most people, however, only the desire for certain pleasures escalates into an uncontrollable urge. In recent times, we have new types of addictions, such as internet, sex, food, shopping, and the like, and addiction itself is approached in a different manner. Numerous works have been published in recent years on the topic of contemporary addiction. On issues of Internet addiction,

they write (Mihajlovic et al. 2008, Hinić 2011, Evren et al. 2014, Senormanci et al. 2014), and addiction to food (Dimitrijeviu et al 2016, as well as many others. Due to the emergence of other types and models of addiction, the emphasis is placed on addictive activity itself and factors that influence its development. It is therefore considered that addiction is a “model by which an individual creates his daily life”. Other life events are pushed into the background because they become less important, and by dealing with the addictive content the addict throws aside other forms of social contacts (American Psychiatric Association 1996, World Health Organization 1992). Loss of control, i.e. systematic loss of responsibility and awareness of your decisions, and drug abuse or addictive activities can be termed as addictive behaviour. This involves the abuse of addictive resources or more recently, the performance of certain addictive activities associated with one’s own behaviour. This behaviour does not necessarily lead to addiction, but an essential determinant of addiction is addictive behaviour which is manifested in psychological or physical symptoms or social difficulties, whereby a physical component is not necessary. Therefore it can be said that the most important determinant of addicts and addictive behaviour is the obstinacy of this behaviour and resistance to change. The paradox of today’s society is the concern for human rights, the importance of preserving life and dignity, and at the same time all the rights are contested because of the so-called inversion of values that reject traditional ones and jeopardize fundamental constitutions of human life – from marriage and family to the right to work and freedom (World Health Organization 1992).

ADDICTIONS OF THE 21ST CENTURY

The modern era in which we live alongside important technological advancements brings with it some negative aspects that are attributable to human weaknesses. Uncertainty regarding our personality, the subjective desire to be something that we are not, influence of media that impose false values are just some of the factors of modern age. In the modern world, illnesses resulting from passion arise alongside most important advances of the human civilization. They are the counterbalance of these advancements or a punishment for the civilizational oblivion of man’s existence. Addicts are almost always dysfunctional people who become prisoners of their own passions (Vasilj & Babić 2016).

Regarding the issue of addictions without drugs very little is known. Most authors describe it as man’s craving for something and engaging in it, despite many consequences, and as a genuine need that is biologically, psychologically or socially set. Although this statement does not have considerable scientific literature support, the phenomenon of drug addiction can be associated with the passions that “blossom” in the mind of the brainwashed modern man. Passions are a sign of man’s greatness, but at the same time a source of his

suffering, these are the fundamentals of life, meaningless only to man. Researches have revealed a number of parallels between addictions with and without drugs. The concern is even greater since consequences of biological, psychological and social nature have been noticed in addictions without drugs very similar to those in drug addictions. Although the physiological effect of the drug-free addiction to the brain and the nervous system has not yet been investigated, scientists have found the same effects in addicts who suffer from one or another type of addiction: a) inability to sustain stimuli, b) decline of emotional control, emotional frustration and anxiety; c) during addictive activity pleasure centres in the brain are equally activated; d) during the course of addictive activity there is an equal increase in adrenaline levels in blood; e) neglect of professional, social and family duties (Zuckerman & Petranović 2010).

Shifting the focus from the deep-rooted belief that addiction must be related to psychoactive substances i.e. addictive drugs, such as nicotine, alcohol, and heroin, a paradigm is placed on the reversal of today’s civilization. It becomes clear that any behaviour that overstimulates the individual can be addictive. An individual chooses activities or behaviours that will most likely produce pleasure, comfort or at least cause the lowest degree of discomfort, while consciously or unconsciously knowing their current biological needs. Pleasant awards or intensifiers increase the frequency of behaviour that lead to them, while unpleasant stimuli do the opposite (Brlas 2010). In this way people start to excessively pursue these awards gained from certain behaviours and then constantly repeat them, and sometimes develop addictions. Some of the behaviours that can create addictions are gambling, sex, eating, Internet or playing games, but as they are a part of normative, everyday life and closely related to the mere functioning of people in society, it is very difficult to distinguish the moment when they become a part of the individual’s pathology. That is why their phenomenon must be observed in different social situations. They must be clearly visible and determined in relation to social situations, family and professional relationships (Paučić Kirinčić & Prpić 2003). According to Griffiths addictions without drugs consist of six components: 1. salience, 2. mood modification, 3. increased tolerance, 4. withdrawal symptoms, 5. conflict, 6. relapse. All later reference models emphasize some of the main components and focus their attention on the study of specific occurrence levels of addictions that have not yet been explored (Vasilj & Babić 2016).

MOST COMMON ADDICTIONS WITHOUT DRUGS

Pathological gambling

Gambling is a phenomenon encountered in various forms throughout history and in almost all cultures and civilizations. Even 5000 years before Christ there are data on various types of gambling and we find them in

the Bible. Kraepelin and Bleuler described the term "gambling mania", a disorder involving, panic disorder, hyperactivity disorder, and different variations of impulse control disorder. Many literary works describe gamblers who were famous and favourite (Alexei Ivanovich and other characters from the novel "The Gambler" by Fyodor Dostoyevsky, John Henry, known as the famous "Doc Holliday" from the "Wild West",...), as well as numerous other characters from adventurous movies about gamblers in glamorous environments with beautiful women, luxurious living and leisure, always accompanied by a passion for a risky game (Babić et al. 2016, Vasilj & Babić 2016). According to the International Classification of Diseases, American IV revision: Diagnostic Statistical Manual (DSM-IV) and Tenth revision of the International Classification of Diseases (ICD-10) (American Psychiatric Association in 1996, the World Health Organization 1992) pathological gambling as one of the six categories is listed in the chapter "Impulse Control Disorders". Pathological gambling contains a common feature of this group, and that is an inability to resist an impulse, drive or temptation, or an inability to perform some act that is dangerous or harmful to the patient or others. Another common feature of these disorders is that a person has a growing sense of tension or excitement before the act. During the act itself, the person feels pleasure, satisfaction or relief, and after the act, regret, resentment or a feeling of guilt may or may not appear. Numerous literature states that today gambling is the most widespread cultural phenomenon. For the last decade, especially gambling in different types of betting shops which is becoming a major scourge of the modern era (Babić et al. 2016). The DSM-V classification (Martinac et al. 2003) has radically changed the attitude towards this disorder. The disorder has changed its name and is no longer marked as pathological gambling but as a gambling addiction. The standard definition of gambling is that an "individual risks something of value in exchange for the expectation of larger profits, under unsafe conditions" (Clark 2014).

The cause of gambling addiction is a combination of biological, psychological and social elements. Urges for excitement and tension reduction underline the addictive behaviour. They are triggered by an emotion or an event, such as anxiety, loneliness, depression, dissatisfaction with anxiety, passive aggressive personality with a sense of inferiority, guilt, low self-esteem, rejection, not taking responsibility for own behaviour. There are many factors why a person becomes addicted to gambling. As with psychoactive substances, some of these factors are associated with family origin and genetic structure, while others reflect their personal experience and the environment in which they live. In a neurobiological sense, gambling addiction involves an area associated with biological rewards, motivation, and instincts, memory and parts responsible for acquiring new knowledge and ultimately the control area. It was found that gamblers have a reduction in the sensitivity of the reward system (Foddy 2011).

The gambling addiction is more common in men. Men begin to gamble in early adolescence while women later in their lives. Differences in gambling patterns have been observed between men and women. Men are more likely to gamble in groups, and women alone. Gambling can be regular or episodic but the course of the disorder is progressive. Over time, the frequency and money bets increase. The urge for action and excitement is more important than money itself. A strong internal or external stressor can suddenly turn social gambling into a gambling addiction (Babić & Vasilj 2016).

When gambling reaches the level of addiction, the person significantly changes their behaviour. There is a tendency towards cognitive distortion, denial, and superstition. Paradoxically, the more the person losses they are more confident in the "sure win" and change. There are growing financial problems - debts, sale of assets, difficulties in repayment of loans, extortion of money from family members. Family and partner relations are distorted. Gambling also causes marital dysfunction, inadequate parenthood, and even family breakdown. Spouses often suffer from mental disorders, and there are problems in the workplace, and with the law. Physical health deteriorates, chronic headaches occur, same as chest pain, sleeping disorders, cardiovascular diseases, and in mental disorders, the frequency of depression in gambling addicts is 2-4 times more common in relation to healthy people as well as suicide rates that are significantly higher than in the general population (Babić & Vasilj 2016). Research suggests a high correlation with addiction to psychoactive substances, tobacco, alcohol, anxiety and depression disorders, high suicide rates, hyperactive disorder and attention deficit disorders, as well as some personality disorders. Comorbidity further undermines and masks the clinical image, making the treatment and normal functioning of the gambler more difficult.

The treatment is a complicated process and involvement of the patient himself, his family members, and medical professionals is essential. The fundamental goal of the treatment is to eliminate the irresistible urge for the gambling trance, restore control over emotions and behaviour, and stabilize mental health. The treatment includes individual and group psychotherapy, pharmacotherapy and various sociotherapy programs with self-help methods. The goal is to stabilize the general condition of the addict, reinstate abstinence and change the philosophy of life to a more adequate and healthy one.

Internet addiction

The term internet addiction is first mentioned in 1984 alongside a description of cybernetics, a new science that studies the principles of technology and informatics. Internet addiction is characterized by a certain blend of real and surreal, where both characteristics take up the same amount of space in the life of an

addict (Cought 2000). This term describes addictions related to a variety of options provided by the computer and Internet with compulsive behaviour. People who become addicted to computers have many problems with their own identity and struggle with difficulties of everyday life, and have a hard time communicating with others. In a struggle with themselves, addicts use the computer to communicate with people on line and in this way try to overcome inner fears that prevent them from communicating in real life. Supporters of the hedonistic theory in the development of addiction believe that the main reason for addictive activities is the pursuit of excitement. Internet addiction, especially chat, is an addiction where people feel excitement while connecting to the Internet and then spending a lot of time on the computer by talking to one or more people (Vasilj & Babić 2016).

Shopping addiction (oniomania, compulsive buying disorder)

Compulsive buying disorder was first described by two distinguished psychiatrists Kraepelin and Bleuler at the beginning of the last century and is increasingly present in modern life. Oniomanics are people who lead themselves into absurd debts and personal assets catastrophes and scientists began to show interest in this issue in the 90s of the last century (Ajtlbez & Babić 2016). The modern man fearlessly embraced the ruling trend of uncontrolled spending. The data indicates that about 15 million Americans are afflicted with the compulsive buying disorder and that only for the last decade the average credit card debt grew by more than 150 percent (Lipovetsky 2008). Shopping addiction is the addiction of the 21st century, it has an extensive diagnosis and many subtypes of the disorder (holiday, compulsive "shopper", bipolar, depressive, recreational...).

Shopping is a normal component of modern and our everyday life and the modern man feverishly inclines to the ruling trend of rampant consumerism. When shopping is a rational and thoughtful activity aimed at achieving clear and well-defined goals, it is considered as a controlled purchase. A milder shopping disorder is when people show happiness for buying something for themselves and purchasing in order to cheer themselves up. A more serious shopping disorder is when people can not limit their shopping and when shopping is an escape from bad feelings and mood and anxiety. When a person is a shopping addict, they will spend hours in the store without even noticing how much time has passed. The attention is drawn to exposed products that are irresistible to the addict. The compulsive buying disorder is of chronic and progressive nature because in time it becomes more frequent and prominent and is more difficult to conceal. Every shopping addict has a problem of setting the purchase limit. The shopping addiction becomes destructive, it destroys the person financially, emotionally and mentally (Ajtlbez & Babić 2016).

Shopping addiction is a disorder characterized as an obsessive and irresistible urge to buy everything and anything for no particular reason, a spending spree, shopping hysteria with a potential for developing addiction, "a response to everyday stress of modern life" (Babić et al. 2016). Compulsive buying disorder should be distinguished from collecting, even though the line between them is very thin it still exists (World Health Organization 1992). People with pathological symptoms of shopping addiction can be classified into several groups: 1) emotional (as a form of auto therapy for relieving anxiety, antidepressant therapy), 2) impulsive (an irresistible urge for shopping), 3) fanatic (collectors), 4) compulsive consumer who reduce their inner tension by shopping (Babić et al. 2016).

In the United States, 5-10% of people suffer from the compulsive buying disorder and 80% of them are women. It is most often manifested in adolescence and is characterized by the chronic character (Zuckerman & Petranović 2010). According to Skočilić, it is not the type of goods that is important but its quantity. There is evidence that in developed countries 10-20% of people suffer from this type of addiction. The presence of this addiction was first pointed out in Europe. According to data from 2008, around 800,000 Germans are addicted to shopping. At the beginning, oniomania was not considered a medical disorder in the United States but soon the attitude changed. In the background of compulsive buying there is always depression, anxiety, anger or loneliness (Brlas 2010).

The etiology of the compulsive buying disorder is not entirely elucidated. The predisposition for compulsive buying is influenced by a combination of psychological, biological and socio-cultural factors (Paučić Kirinčić & Prpić 2003). Compulsive buying is a personal matter of an individual. It is irrelevant whether he buys alone or with someone or whether he buys in fashion boutiques, department stores or the so called flea markets. The common purchase objects are clothes, cosmetics, shoes, jewellery, and household accessories. Value and practical function of the goods are irrelevant, only quantity is important (Brlas 2010). The consequences of this kind of purchase are also important and consequences of compulsive buying can be both short and long-term (Paučić Kirinčić & Prpić 2003). Although the act of buying is accompanied by pleasure and happiness, relief from stress, a brief sense of satisfaction, a sense of self-confidence and an escape from loneliness, the long-term consequences are negative and manifested as an increase in indebtedness, a subjective feeling of loss of control and uncertainty, and disappointment in oneself, as well as a feeling of guilt after the person becomes aware of financial debts that first create material, and soon after psychological problems (Clark 2014). That there is a stronger feeling of guilt, anxiety, shame, despair, which in turn cause depression and a lack of self-esteem. Looking at it from a social aspect, problems will arise

because compulsive buyers try to hide and forget everything they have bought and they also try to hide their behaviour from others (Paučić Kirinčić & Prpić 2003). This will especially be emphasized during grand holidays when the shopping culminates and when people with the compulsive buying disorder, due to debts, can undermine partner and family relationships. This problem is more pronounced in people with lower incomes and the consequences appear long after the purchase, and can sometimes be devastating – destroying marriages, families, causing and depraving financial and existential problems, causing anxiety and a feeling that life is out of control, and sometimes even ending in suicide (Foddy 2011). Compulsive buyers rarely seek help from experts. They visit psychiatrists or psychologists when the situation becomes drastic or after a major family problem. Professional treatment involves individual and group psychotherapies and with comorbid disease psychopharmaceuticals are used, and most frequently antidepressants. The goal of the therapy is to gain control over the urge that or in other words to enable insight into its own state and strengthen the resistance towards the urge of uncontrolled shopping.

Sexual addiction

Unusual sexual behaviour and possible consequences of the same have been known since ancient times and described in various sources. Looking at it through a cultural or religious aspect, it is considered as an illness or sin. Numerous terms have been used to describe such a behaviour, such as nymphomania, Don Juanism, perversion, compulsive sexual behaviour, impulsive sexual disorder or the one that will be used here, sexual addiction. Due to many disagreements and unclear definitions it is very difficult to precisely determine this disorder and its effects on an individual's life (Vasilj & Babić 2016). Although it has been classified long ago, its definitions have changed. Recent research has shown that people suffering from hypersexuality show substantial psychopathological characteristics similar to gambling disorders and according to the DSM – V criteria it is classified as a “Substance-Related and Addictive Disorder”.

Definitions of sex addiction result in a division between physical and psychological symptoms and the fact that it is powered by an impulse or disturbed behavioural model. This kind of behaviour escalates at a certain stage, abstinence syndrome and dysphoria occur during attempts to reduce or stop such a behaviour. On the other hand, if we think about the nature of such behaviour, it can be characterized as a behavioural disorder with thrilling sexual fantasies that encourage intense sexual perversion and behaviour that ultimately results in problems in all aspects of life. An important factor of the study of sexual addiction can be found in the individual's personality in which

there is an increased or decreased factor for the development of the same. At greatest risk are people who have an increased demand for excitement, and a more pronounced demand for eliminating negative and subjectively harmful experiences, as they fully surrender to the brain's reward system. A sexual addict has a constant tendency for one of the following actions: a) an irresistible need for group sex, b) compulsive masturbation, c) fanatical attachment to a sexual partner, d) frequent compulsive sexual behaviour accompanied by unsatisfied sexual intercourse, e) numerous sexual relationships accompanied by dissatisfying sexual experiences and a need for constant repetition of sexual intercourse. Biochemical and behavioural changes that occur in sexual addiction are similar to those in drug addiction – as the addiction develops further sexual activity escalates, abstinence syndrome, depression, anxiety and guilt appear as well as the inability to reduce or stop the frequency of the activity. Addicts spend more and more time searching for potential partners thus disrupting other activities in their lives. Maintaining such sexual behaviour despite the knowledge of potential negative consequences such as sexually transmitted diseases, marital problems, and violation of the law or convictions for physical violence.

Sexual addicts very rarely seek medical help because of a feeling of discomfort they can experience. Only when major problems arise such as suicide attempts or depression, they are sent to psychiatric treatment. During therapy, in addition to pharmacological agents, systematic psychotherapy and behavioural therapy should be included as well. During treatment it is very important to find and implement programs that focus on character change of people with sexual addiction (Vasilj & Babić 2016).

Work addiction

Work addiction or workaholism originates as a compound of the words work and alcoholism. At the same time, in order to clarify the term it is linguistically used in our language in several forms, such as work addiction, excessive work, or obsession with work (Duarte Garcia & Thibaut 2010). The most commonly accepted definition is “compulsive and progressive, potentially fatal disorder characterized by high demands, exaggerated devotion to work, inability to regulate work habits, and appearance of problems in intimate relationships and important life events” (Farrei et al. 2015). If a person works more than others in their environment, even if work exceeds 14 hours a day, it still does not mean they are addicted to work. An interesting paradigm is that all real addicts constantly work, but people who constantly work are not necessarily addicted. The problem arises when the manner and quantity of work began to negatively affect the individual and his environment. An even bigger problem is the fact that work addiction is socially accepted and highly motivated in

the modern consumer society. Therefore, we can say that this addiction is not only an individual's addiction but an addiction of the entire social order. As a casual factor that a person has exaggerated working include work engagement, impulses leading to such work habits, and the level of satisfaction in a particular job. What begins with love for work and a desire to prove often ends with the development of perfectionist and obsessive personality traits. These people do not work only because of external factors but also because of a newly developed internal compulsion. Apart from negative consequence for the individual, this addiction also influences the working environment, because narcissism appears in the final stage of addiction, which is characterized by the loss of empathy and compassion for others.

Work addiction can result in various negative consequences, including burnout, stress at work, health problems and emotional difficulties that actually do not exist. At the same time addicts are overly focused on work and lose any sense of enjoyment and this is mostly because of a feeling of insecurity. Work addicts work harder and harder and subjectively believe that this will provide them a more secure position at work. Likewise, they strive to be extremely successful, ignoring other indicators of poor quality in their lives. Social aspects are the most present factors in work addiction. The addicted person can mirror his or her attitude towards work on people in its surroundings, expecting from them the same attitude and persistence. There are also evident problems in relationships, marriage, and in general social environment. Statistically one out of four employees are addicted to work. This number increases in larger professional environment where expectations are higher. It is most present in professions such as medicine, economics, etc. Where longer working hours are expected, greater effort and best possible determination that does not tolerate mistakes (Vasilj & Babić 2016). Work addiction is present in certain professions and sports, but the biggest problem is that it affects people of all ages. It begins to emerge in the Western world when children are first confronted with the school environment and are immediately encouraged to have outstanding results. The addiction continues in academic circles, where students use recreational substances to meet the high goals, and after some time, more serious psychoactive substances such as Ritalin, amphetamine and similar. Individuals in work environments also very often take psychoactive substances to achieve better results. Comorbidity with the shopping addiction is very common, because people who depend on work mostly have grater incomes and as they stop to understand the causes of their social breakdown, they began to buy the love of other people (Duarte Garcia & Thibut 2010, Farrei et al. 2015). Individual therapy, group counselling or assistance provided by the organization in which the person works are included in the treatment of work addiction.

Food craving

Food addiction is neither starvation nor overeating, but it contains both of these elements. It is considered that addiction does not apply to all food, but exclusively to food containing carbohydrates. Carbohydrate foods, especially those consisting of "fast carbohydrates" (sugar and white flour) initiate complex biochemical processes in the body. Soon after the intake of such food there is a sudden change in the level of some chemical substances in the brain, that is in the neurotransmitters responsible for addiction (dopamine and serotonin). After the intake of carbohydrates, dopamine levels increase and create a feeling of comfort, and a sudden increase in serotonin levels lead to a sudden feeling of serenity and satisfaction. On a psychological level, craving for carbohydrates can be compared to the irresistible need of alcoholics for alcohol or cigarette addicts for nicotine (Vasilj & Babić 2016). The addict gradually loses control over his eating habits and becomes the victim of binge eating attacks. First, the mood improves quickly, but then metabolic problems arise because sudden and unpleasant changes in blood sugar levels can only be compensated by increasing the intake of sweet food. The person goes from one extreme to another, either starving or overeating carbohydrates. The consequences are either obesity or anorexia and bulimia.

Is chocolate a drug?

Although chocolate contains a low concentration of caffeine, it also contains theobromine which has a similar effect on the human nervous system. It is known that these two substances have a psychostimulant effect. It is proven that chocolate provokes excitement, after which tolerance appears and addiction develops. Chocolate addiction appears in people who eat chocolate every day and in large quantities, it is present in women in higher percentages. Chocolate addiction is called chocomaina. Chocomainacs are people who eat between 100 and 500 grams of chocolate every day, many even more over a period of several years, with the goal of raising mental and physical activity. Anxiety and anger appear as a consequence of chocolate abstinence. Scientific research poses a hypothesis that chocomainacs can be considered sweet foods addicts. Many "admit" their chocolate addiction believing that it can not harm their psychological and physical health (Vasilj & Babić 2016).

Weight loss addiction

Unlike previous periods, today's ideal of feminine beauty is to be slim, so it is not surprising that a large number of young women want to be skinny. Obsession with being skinny leads to weight loss addiction. Extreme effort of being skinny often causes a dangerous disease – mental anorexia. In mental anorexia, there is a deliberate refusal of food and an active battle against hunger. The person suffering from anorexia has a completely distorted body image and thinks she is never skinny enough. In a psychological context, it is a

specific condition that is followed by constant panic of possible weight gain.

Bulimia is considered a behavioural disorder associated with obsessive weight-loss and a weight loss addiction just as anorexia. The difference between anorexia and bulimia is reflected in self-control, which is significantly higher in bulimia. Bulimia is a reflection of the overall disorganization of a person, characterized by psychological confusion with frequent mental crises and a feeling of unhappy life with an increased possibility for depression. Anorexia and bulimia, as specific weight loss addictions, are often accompanied by suicide attempts and suicide itself. Therapy is same as with any other addiction. It focuses on individual treatment and understanding of one's own condition, followed by long-term group treatment and self-help (Vasilj & Babić 2016, Zuckerman & Petranović 2010).

Sports addiction

Practising sports has become a preoccupation of many young people, but too much exercise can lead to unwanted consequences. Involvement in sports accompanied by behaviour that disturbs the overall psychophysical condition of a person and its relationship with everyday life is defined as sports addiction. Despite the fact that any addiction is harmful, some individuals still consider that there is a "positive" addiction to sports. It is because of this that top athletes are ready to do anything to maintain their position. In 1976, Glasser published the concept of "negative addiction" that contradicts the positive effects of sport.

First doping evidence date back to ancient times, 776 BC. At the time, athletes used different psycho-stimulatory plants and drank goat blood while today they use semi-synthetic haemoglobin. Every day, the number of psychoactive doping substances produced by synthetic processing increases, which, in the long run, endanger athletes' health, although they are not on the list of prohibited doping. The intake of stimulants becomes a way of life for athletes who use doping, together with all the negative indicators and signs characteristic for addiction. When we speak of sports addiction, the paradoxical fact is that people who do not play sports but are fanatic fans can also become addicts. Sports associations and local communities are often deeply concerned about sports fans because of the familiar aggressive tendencies that all have characteristics of juvenile delinquency (Vasilj & Babić 2016, Zuckerman & Petranović 2010).

Sports accompanied by behaviour that interferes with the overall psychophysical condition of a person and its relationship to everyday life is considered addictive (Birouste 1999). Mental focus to muscle strengthening can be so overwhelming that people continue to work out even in cases of real physical pain. Athletes who strive for high results often have a phobia of possible failure, this is why they resort to doping and abuse various psychoactive substances (Carrier 2000).

ADDICTION OR WAY OF LIFE?

Modern man's way of life in the twentieth century is drastically changing and with a remarkable pace in all of its aspects. In order to fit into its environment and meet the requirements of general development, the man has to come in contact with numerous phenomena such as the Internet, attitudes of consumerist society, new ways at trying one's luck, the desire for excessive sexual pleasure, and must do his best to satisfy his working environment. As products of development many new "technological objects" are also being developed, which are not essential, but provide a somewhat easier life or meet the needs in a more practical and effective way. The twenty-first century offers opportunities greater than ever. Everyone can use whatever they want and do a number of activities that satisfy their needs, but from these seemingly benign activities arise problems that reduce the quality of other aspects of life and the amount of time. The need for happiness, pleasure and acceptance is one of the basic human needs whose fulfilment has never been easier than it is today. Now we have the opportunity to "choose" our addiction and be completely socially accepted while enjoying in it, because it has become relatively easy to be addicted and remain unnoticed (Zuckerman 2004).

This negative trend of contemporary addictions or the co-called addictions without drugs occurs in the twenty-first century for several reasons. Many traditional norms that were valid throughout history now changed. Number of marriages and natural growth are decreasing. There is a growing number of people living alone in the world. Loneliness, single life, isolation and alienation have a negative impact on health. Although living conditions and connections have never been better, people talk less, move less, and have unhealthy eating habits (Sartorius 2010). No one is interested in books and almost no one reads them anymore. Everything has changed and new technologies have brought a number of advantages but also creative impotency in many people. Only the centre for thumb is developing in the brain because people only type, and proportionally the thinking brain will diminish (Đorđević 2015). There has been a significant change in normal values, and many do not know where, when, with whom and how to spend their free time. Together with technological advances, many sociopathological phenomena occur. A growing number of people are obsessed with the Internet. There are less real, and more and more virtual friendships. It is necessary to bear in mind that all the "benefits" of the twenty-first century, that many over use and experience as a lifestyle or part of the modern philosophy of life, often become epidemics and can lead to serious organic, social and psychological health problems, or cause a disease called addiction. Even a few decades ago it was pointed out that research in the world indicate addiction without drugs increases: addiction to fast cars, sports, work, sex, food, and many other forms of self-destructive lifestyles. Unfortunately,

we still have many experts in “waiting”, guided by the knowledge that this pathology does not have a developed monitoring instrumentation nor it endangers the addict’s life (Sissa 1997). Many are still willing to assign this to the modern way of life and overlook numerous facts that suggest the increasing risk of addiction. Psychiatry has made significant advances but will not fulfil its social role if it fails to overcome its actual and potential weaknesses. Addictions without drugs, along with many other problems, are important and necessary to urgently understand in the 21st century medicine, doctors and other factors in the health sector must think together and respond to these and other challenges facing the health service (Sartorius 2010, Sartorius 2014). Psychiatrists should know that the culture of psychiatry, and that means the ideology and beliefs that determine the way in which psychiatry functions, are in line with the spirit of the time, its dominant ideology and ruling beliefs. The culture of psychiatry has always been a part of the culture of a given society in a given time (Kecmanović 2008). Although the World Health Organization has long recognized alcoholism and addiction to other psychoactive substances as a disease and included them in the current international classifications of disease and related conditions, unfortunately there are still doctors and psychiatrist who are willing to understand these addictions as a way of life and not real diseases. We should learn from the mistakes and as soon as possible properly define and place addictions without drugs in the appropriate category, and provide adequate help for such patients. Such an approach will help addicts and make their lives healthier and happier, but it will also bring grater satisfaction to their families and society as a whole.

CONCLUSION

There is more and more evidence that addictions of the modern age or addictions without drugs, lead to self-destruction and social problems and are almost identical to classical addiction. They are usually part of the modern man’s lifestyle, but often turn to addiction. Therefore, addictions without drugs should not be relativized and society and scientists must pay more attention to it.

Acknowledgements: None.

Conflict of interest: None to declare.

Contribution of individual authors:

Romana Babić & Dragan Babić: design of the study, literature searches, writing the manuscript;

Marko Martinac, Marko Pavlović, Ivan Vasilj & Miro Miljko: design of the study;

Marina Vasilj: design of the study, literature searches.

References

1. Ajtlbez L & Babić D: *Shopping – modern age addiction. Health Bulletin* 2016; 2:72-82
2. American Psychiatric Association, *DSM-IV: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. Naklada Slap Publishing and Printing, Jastrebarsko, 1996*
3. Babić D: *Psychoactive substances: mental and behavioural disorders due to psychoactive substance use. University of Mostar, Mostar, 2016*
4. Babić D & Vasilj I: *Pathological gambling. In: Babić D (ed.): Psychoactive substances. University of Mostar, 2016*
5. Birouste J: *Économie pulsionnelle des goûts des sportifs. Revue Sport et Psychologie* 1999; 10:367-72
6. Brlas S: *It is important not to start – some fundamental concepts of addiction psychology. Institute of Public Health “Sveti Rok” Virovitica Podravina County, Virovitica, 2010*
7. Carrier C: *Modele de l’investissement sportif de haut niveau et risque de lien addictif au mouvement. Ann Med Interne* 2000; 151:60-4
8. Clark L: *Disordered gambling: the evolving concept of behavioural addiction. Annals of the New York Academy of Sciences, New York, 2014*
9. Cought J: *In the Net: how to recognize the sings of Internet addiction and a winning strategy for recovery. John Wileu & Sons, New York, 2000*
10. Dimitrijević I, Popović N, Sabljak V, Škodrić-Trifunović V & Dimitrijević N: *Food addiction-diagnosis and treatment. Psychiatr Danub* 2015; 27:101-106
11. Duarte Garcia F & Thibut F: *Sexual addiction. Am J Drug Alcohol Abuse* 2010; 5:254-60
12. Đorđević V: *Lost souls. Zagreb’s Institute for the culture of health, Zagreb, 2016*
13. Evren C, Dalbudak E, Evren B & Demirci AC: *High risk of internet addiction and its relationship with lifetime substance use, psychological and behavioral problems among 10th grade adolescents. Psychiat Danub* 2014; 26:330-339
14. Farré JM, Fernández-Aranda F, Granero R, Aragay N, Mallorquí-Bague N, Ferrer V et al.: *Sex addiction and gambling disorder: similarities and differences. Compr Psychiatry* 2015; 56:59-68
15. Foddy B: *Addiction and its sciences-philosophy. Addiction* 2011; 106:25-31
16. Group of Authors: *Croatian Encyclopedic Dictionary, Novi Liber Publishing Company, EPH, Zagreb, 2004*
17. Hinić D: *Problems with ‘Internet addiction’. Diagnostis and claification. Psychiatr Danub* 2011; 23:145–151
18. Jakovljević M: *There is no health without mental health: What is mental health? Health Bulletin* 2016; 1:65-71
19. Kecmanović D: *A Critical Look at Psychiatry. Official Bulletin, Beograd, 2008*
20. Lipovetsky G: *Paradoxical Hippines. A reflection of hyper-consumerist society. Antibarbarus d.o.o., Zagreb, 2008*
21. Martinac M, Markić J, Karlović D & Meštrović J: *Identification and treatment of synthetic (“club”) drug intoxications. Paediatrica Croatica* 2007; 51:5-10
22. Mihajlović G, Hinić D, Damjanović A, Gajić T & Đukić-Dejanović S: *Excessive Internet use and depressive disorders. Psychiatr Danub* 2008; 20:5-14

23. Paučić Kirinčić E & Prpić I: *Sings and symptoms of drug abuse. Pediatría Croatica* 2003; 47:191-96
24. Sartorius N: *Fighting for mental health. Promente, Zagreb, 2010*
25. Sartorius N: *Selection of challenges in medicine at the begging in of the 20th century. Mental health culture and society. Denona d.o.o., Zagreb, 2014*
26. Senormanci O, Konkan R, Güclü O & Senormanci G: *Depression, loneliness, anger behaviours and interpersonal relationship styles in male patients admitted to Internet addiction outpatient clinic in Turkey. Psychiatr Danub* 2014; 26:39-45
27. Sissa J: *Le plaisir et le mal. Odile Jacob, Paris, 1997*
28. Vasilj I & Babić R: *Addictions of the modern age. In: Babić D (ed.): Psychoactive substances. University of Mostar, 2016*
29. *World Health Organisation: The health of youth. Geneva, 2009*
30. *World Health Organization: The ICD-10 Classification of Mental and Behavioural Disorders. World Health Organization, 1992*
31. Zuckerman IZ & Petranović D: *Addictions of the modern age. Školska knjiga Publishing Company, Zagreb, 2010*
32. Zuckerman IZ: *Addiction without drugs of student population. Pedagogical Research* 2004; 1:231-39

Correspondence:

Romana Babić, MD, PhD candidat
University Clinical Hospital Mostar
Bijeli Brijeg bb, 88000 Mostar, Bosnia and Herzegovina
E-mail: romana.babic@gmail.com