Psychopathology in postmodern societies

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Summary

Objectives

A growing body of evidence suggests that postmodern societies currently face a significant number of changes imprinted by evolution at a number of levels. These changes are resulting in increasing stress both at the population and individual levels, possibly leading to mental health problems. Many social variables are subject to rapid fluctuations which, in turn, affect changes in society leading to mental health consequences of the population. In this paper we review the available literature on social variables subject to rapid changes in postmodern societies with links to the DSM-5.

Methods

Search of papers until June 2015 was carried out using PubMed. We considered only on variables that can be identified in societal changes from modernity to postmodernity and that cause stress, mental distress and mental disorders.

Results

Discomfort is present in situations where the subject experiences feelings of subjective malaise, beyond the presence of biomedical symptoms. Mental disorders are strongly linked with situations such as technology, markets, economic forces, environmental crises, pollution, demographic crisis and cultures in the building process, including their manipulation.

Conclusions

The review confirms the psychogenic psychological problems and uneasiness connected to crises that post-modern society creates within communities and environments. The DSM-5 offers a potential explanation to the social variance related to psychopathology.

Key words

Postmodernity • Systemic Risks • Crises • Psychogenic disorders • Flux and psychopathology • Short/long term consequences

Introduction

Generally, the term "postmodernism" refers to the contemporary culture that is replacing industrial cultures, designed by the Bretton Woods system after WWII. Postmodernity, therefore, is an economic or cultural state or condition, although its limits are seen as variable and controversial. As a result, the notion of controlled progress has been replaced by high-risk progress [1]. Postmodernity includes at least three phases. The first is combined with post-colonialism and becomes post-capitalism. This process is still ongoing, and is added to the second phase – or neogenesis – in which new social processes, which are quite unexpected and may be improvised, come forth in the form of crisis, flows, transformation, assembly, metamorphosis and mutation. These processes are apparent at all levels and include communication, flow of ideas and reorganisation of power. The third phase is that of synthesis, which is represented by a reorganisation within legal parameters, ethical relations and safety standards.

At present, postmodern culture is globalised by technology, defined by mechanical reproduction of goods, with the beginnings of information theory, and the liquefaction of the political blocks [2]. The organisation of values is based on the free market, neogenesis phenomena, loss of the value of knowledge in terms of its consumption [3], changes in the conception of the mankind [4], work on social simulacra [5] and the permanence of the state of crisis in the bio-psycho-social paradigm [6]. Societies have always had their own dynamics and, as any other system, also have a maximum load. Within the range of sublevels of a society, individuals can maintain identity and purpose of a common action. After reaching the maximum load, the social system goes into an emergency or a phase change. The previous balance will not return. Regardless of how this systemic crisis occurs, the redistribution of forces will involve most of the substructures that were previously found within a certain balance. It is therefore obvious that some substructures will not survive, whereas

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others will be transformed. When a crisis affects a social system, it is often difficult to recognise the end of a period and the beginning of a new one with new structures. In this scenario, the study of psychic phenomena becomes complex. For example, two phenomena apparently related to mechanisms of cause and effect could instead be the product of a third constant interference, something that is not yet known; or observed psychic dynamics may be part of a broad automatic change, so slow that it cannot be caught on the basis of extemporary aspects – a sort of change in the system, a period of fluctuation, an algorithm, a decrease of energy or subtraction of mass in the system. This can be illustrated by the impact of climate change [7]. Social psychiatry states that there are systems related to culture [8], languages and laws. Academics in social neuroscience are studying the action of these factors, due to the fact that the focus was previously on one type of neurogenetic approach. Today, this single approach is no longer sustainable. Neuroscience has to anchor top-down methods of investigation (social/encultured) as well as bottom-up (neuro-evolutionary perspectives) [9] [10] in order to build a working model. Postmodernity is replacing modernity with great speed compared to other previous historical transitions. The speed is related to the impact of social media and globalisation as a whole. Even the speed of urbanisation has been astonishing. Given the speed, many structures, buildings, relationship dynamics have maintained a certain aesthetic form of modernity. Postmodernity generates "postmodern personalities". Within this context, psychopathology steps in, following social transformations, reflecting the manner in which psychiatric disorders embody this complexity. The forces that are pushing the transformation from modernity to postmodernity are mostly related to "flow and flux" of material changes and resulting stress. The influence on psychopathology is due to new stressors on vulnerable groups and individuals, or to changing realities. The susceptibility of groups or individuals depends on the context or reality within which groups and individuals live and work. When these settings become fragile, inhospitable, or with a lack of emotional resources, that is when psychopathology can emerge.

Materials and methods

There are several methodological problems to consider when assessing the effects of social variables on mental health. The first is how social variables are defined. Although one can discuss the validity of the definition of this term, most authors agree that social variables can be measured. The goal is to identify social conditions that cause a detrimental effect on the mental health of populations. Psychiatric disorders can be divided into three categories according to their main cause: psychogenic disorders, endogenous disorders and exogenous disturbances. Psychogenic disorders are a result of stress, shock, psychological traumas in childhood, adolescence or adulthood – in this case they are short or long-term consequences of social changes. While it is easy to identify a direct relationship of immediate cause and effect, significant long-term effects are harder to understand. Long-term consequences are generally divided in: 1) effects on the person directly exposed to stress after some years; 2) effects of stress on family, extending beyond childhood and into adulthood; 3) effects of stress transmitted to subsequent generations through culture; 4) effects of stress transmitted to subsequent generations through mutations. An example of such an approach is that recently proposed by the WHO work on a PTSD risk algorithm, where PTSD may be predicted and prevented [11]. A second methodological problem is how to measure mental health although different ways, such as surveys on mental disorders/suicidal thoughts in primary or secondary care settings, have been developed. For example, with regard to the economic crisis, Rihmer et al. [12] looked at annual antidepressant consumption, which can be seen a possible proxy for the availability of psychiatric services and the treatment of depression, which is the most powerful predictor of suicide at the individual level.

Results

Technology

In the last 30 years, technology has far exceeded growth expectations, leading to an acceleration in all fields of knowledge, and to the obsolescence of previous understanding and know-how [13]. Technology is the basis of post-modernism and information-age capitalism. It has been suggested that the discipline of psychology should consider whether technology is able to change the characteristics of the ego and the self [14] [15]. There is no doubt that the use of Internet by children and adolescents and its impact on the development of identity (identity exploration) [16] is critical, but we still do not know about the long-term effects of this use. However, it is not clear if the technology makes the users' traits and personality truly visible [17], creating new forms of adaptations or dysfunctions that would not exist without technology. The use of websites like *Parallel Lives*, where individuals can change their identities and choose to be whoever they want, raises interesting ethical dilemmas. Currently, pathological gambling is the only behavioural addiction included in the DSM-5. Preliminary evidence from positron emission tomography imaging studies suggests that a general "Internet addiction" can lead to brain changes which are similar to those associated with substance use disorders,

including changes in glucose metabolism and dopamine levels in brain areas that are associated with substance abuse [18]. New syndromes and disorders related to the use of Internet, including cyberchondria, cyberbullying, cybersuicide, cybersex and pathological video gaming are arising [19]. There is no doubt that many other forms of social media addictions are waiting to be discovered. More detailed investigation is needed to understand the effect that technology is having on those who are vulnerable (cybershopping, cybergambling, smartphone addiction, recruitment for terrorism [20]) and now these factors can change identities.

Markets and their impact

With increased and rapid globalisation, markets have become much closer than they were and have taken the characteristic of "prosumers", i.e. registering and offering products that consumers themselves contribute to describe and demand. Consequently, the market changes and tends to take a role which dictates demands. In fact, the intake of illegal drugs is typically associated with the imbalance of a range of neurotransmitter pathways/receptors, and consequently with the risk of psychopathological disturbances [21], and certain behaviours are based on genetic vulnerability ('reward deficiency' in the nucleus accumbens, impulsivity and tendency to develop craving). The market, meanwhile, tends to evoke similar stimuli because they have been studied in the brains of employees and requested by consumers themselves. Illegal drugs are produced and circulated on the Internet faster than we can study or define them [22], while on the other hand they are undergoing a process of legalisation with a renewed availability and tendency to be abused. The similarities between drug abuse and the automobile market may be farfetched, but both produce effects on individuals. Products in the market (clothing, tourism, media) are generated not only following the desire of consumers, but also trying to modify their desires. The postmodernity market follows what we know about addiction: the market tends to make consumers "dependent" on the products, especially designer products, which may be over-priced, trying to leverage trends that are usually temporary [23]. Increasingly online suppliers are using algorithms to explore consumers' preferences. In this way, we can observe epigenetic changes, with predisposing consumers (since childhood) to excessive purchase. For example, the early use of alcohol in teens seems to follow this pattern of epigenetic-cultural stimulus progressive: alterations in brain circuitry that follow excessive drinking, by disrupting executive function, and making it harder to stop [24].

Economic forces

Some social and economic trends expand on the planet aiming to hoard resources, speculation and transformation of the wealth of energy flow (e.g., cash flow), where local populations may receive absolutely no benefit. The consequences of this type of action are the development of crises, as well as the impoverishment of people and nations. Various forms of economic crises are interconnected with depression [25], psychosomatic symptoms and somatoform disorders, increased rates of alcohol and drug abuse, violence [26] and suicide [27 28]. In the European Union, rising unemployment rates have been shown to be associated with significant short-term increases in premature deaths from intentional violence, including suicides [29]. Increased levels of stress or depression are found to be important indirect causes of the increase in mortality observed during periods of economic crisis [30]. The association between psychopathology and poverty has been repeatedly demonstrated in culturally diverse cases and constantly over time [31]. Developing countries, especially those in "extreme poverty", are badly hit by economic crises [32]. The effects of poverty, especially on children, may in fact be even greater than suggested [33]. Protective actions to combat economic exclusion and promote social participation of individuals with mental health problems are even more important during times of economic crises [34]. Social inequalities cause mental and physical illnesses and, with recent trends of economic downturn, an increase in mental disorders in many countries has been observed.

Environmental factors

The planet is changing and the impact of environmental change is considerable. The increase in temperature, drought, lack of water and pollution affects the mental health for the groups affected by exodus and wars, as well as territorial and geopolitical instability. Current research is discovering how the production of waste created in the postmodern society influence brain connectome. Environmental disasters are a serious concern for pollution. The effects of urban normal and exceptional levels of pollutants on the brain are under exploration. Car pollution (polycyclic aromatic hydrocarbons PAHs) can contribute to the development of behavioural problems, such as attention-deficit/hyperactivity disorder (ADHD). Ionising radiation has effects on the brain and leads to the development of psychopathology – studies began with research on the Chernobyl disaster [35 36] and continue today with the tsunami and disaster in Fukushima [37 38]. The psychopathological effects of ionisation, such as PTSD, mood and anxiety disorders, is connected to risk perception, fear of radiation, evacuation and displacement [39]. Urbanisation appears to be the environment of choice for the human being, and at the same time the site for environmental crisis. Living in urban areas, and therefore urbanisation itself, has been included among the eight

major environmental risk factors for schizophrenia, together with cannabis, migration (and ethnic density), obstetric complications, birth timing, infectious agents (and inflammatory responses), socio-demographic factors and childhood trauma [40]. People living in urban areas have a higher incidence rate of psychopathology than those from rural areas or "green" or environmentally friendly urban areas [41][42].

Changing demographics

Demographics are significantly changing in post-modernity due to several factors, such as reduced birth rates, population ageing and migration. Migration, in particular, requires a pediod of adaptation to incertainty. In postmodernity, migration continues to evolve in parallel with geopolitical and ecological crises, as well as globalisation. It is estimated that nearly 200 million people live outside their country of birth (for economic reasons, to escape war, persecution or natural disasters). In itself, migration does not constitute a hardship or a challenge, however it is a crisis in which many social variables are redistributed and changed [43][44]. The process of migration exposes individuals and groups to stress and to the possibility of developing mental disorders [45][46]. Migratory stress depends on the manner in which each individual initiative before and after migration takes place, their subsequent failure or success, the interaction between cultures of origin and arrival, as well as the integration of first and later generations of migrants [47]. With regard to displacement, it is quite different when people move alone or in groups, voluntarily or involuntarily, or whether they have a plan and a good level of security. Social class, ethnicity, gender and age are systems that embody the different distribution of resources and opportunities: a low social status and the lack of possibility regarding mobility (trapped within pockets of poverty) may already be a factor stress [48][49]. Therefore, stressors related to migration may be the inevitable outcome of systematic discrimination and social injustice. During integration processes, the gap between the culture of origin and the host culture can produce social isolation, stress, lower quality of life and suicide [50].

The cultures of the future

The DSM-5 indicates that ethnicity and race are points of strength and endurance for a group, but can lead to psychological interpersonal or intergenerational conflicts [51]. Cultural groups show both resilience and fragility aspects that are crucial in determining the success or failure in overcoming adversities in the integration process. Trends show that today's societies are more heterogeneous and are not linked to ethnicity. It would appear that individuals and communities are increasingly characterised by the possibility of access to resources and by the ability to move to another part of globalisation. Local contexts, characterised by social immobility, poverty, marginalisation and closure, will be possible reservoirs of future psychopathologies. Living in critical conditions, such as poverty, domestic violence and exposure to generic risks is associated with higher levels of stress that have noteworthy repercussions on mental health. Studies have found that people who are trapped in ghettos and slums [52] with future concerns or immigration centres are at risk for developing new forms of mental disorders, according to their situation [53]. The same is true for those who live in war-torn countries or regions [54], as well as in conditions of repression, political instability, or terrorism. People in these conditions unsuccessfully support stress and are less resilient, and show higher levels of stress, anxiety and depression [55]. It is well known that losing a close family member, such as a parent, sibling or spouse, is a source of great distress [56][57]. In addition, death and severe physical illness of a family member along with financial difficulties, violence and interpersonal conflicts are strong predictors of future health problems, such as anxiety and drug abuse. Internally displaced persons are forced to flee or to leave their homes or places of usual residence, particularly in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights and natural or man-made disasters [58-62]. According to the *United Nations High Commission for Refugees*, internally displaced persons are those who are forced to flee, but either cannot or do not wish to cross national borders [59]. A meta-analysis of studies published from 1962-2004 highlighted the impact of internal armed conflict on the prevalence of mental disorders [60]. Moreover, the culture of countries with moderate income and stable democracies is changing. This is particularly evident in the way groups come together, paired with changes with regard to family, individuals and cultural values. Postmodernity is defined by this trans-evaluation of values, leading to the birth of what can be defined as an egocentric, transgressive (hence risk taking) and postmodern personality [62]. Recent or new cultures are one of the major factors for recognition of symptoms and, consequently, for the interpretation of experiences of stress [63]. During crises, the effect of social changes on psychotic disorders (hallucinations, delusions, depersonalisation) [9], social withdrawal [64] and violence to self or others has been shown. Finally, the culture of psychiatry itself can be influenced by a number of factors, including the interest of the market and the deviations of psychopathology. The first aspect deals with the culture of the technology market that generates a reversal in rank and role between science and technology, downgrading science and upgrading technology. This setting is a marker of the transition from modernity to postmodernity. It is a

type of displacement of the methodical, disinterested scientist: the ideal scholar of modernity [65]. The other aspect regards contrived behaviour and imitation [66]. DSM-5 has been recognised and included the category in *Other conditions that may be a focus of clinical attention* [51] (DSM-5, 2015). The fundamental characteristics of the mimicking and imitation are: 1) presence of individual symptoms, unconnected and free of pathological correlation; 2) production, display and listing of these symptoms; 3) lack of emotional participation by those who show them. The criteria for making a diagnosis are: 1) the absence of clear signs of illness or personality disorders; 2) awareness of what is being done and the motivation that determines how they are imitated; 3) clarity of purpose to achieve. Imitation is a mechanism that is not widespread in the general population [68]. It occurs almost exclusively in forensic psychiatry as a defence in criminal matters [69]. It is aimed at achieving subsequent benefits when undergoing expert evaluation for purposes of judicial proceedings, awards or compensation for a disease pertaining to retirement benefits. Recognising imitation or mimicking is quite challenging in many cases, since patients who are already suffering from mental disorders tend to accentuate existing symptoms. More often, the presence of psychiatric diagnoses has been used to explain criminal behaviours or avoid harsh prison sentences [69]. The issue of mimicking and imitation in postmodernity raises a number of questions. The nature of clinical disorders observed in special environments and resulting in ethical aspects, as well as the response of the concerned authorities, are worth exploring further. We should consider problems which become actualised in postmodern societies. *Psychologism* and disease mongering for example proceeds by 3 steps: 1) the genralised tendency to interpret events or arguments in psychological terms; 2) the attention of mass-media, with the result of an increase in the awareness about knowledge of definition and treatment methods for several prychiatric disorders; 3) the number of patients who have the diagnosis actually increase [70 71]. Among all fields of clinical medicine, psychiatry is undoubtedly the most vulnerable to the danger of disease mongering; for example, the number of patients with depression in the countries where SSRIs were marketed significantly increased. This contract with society is critical in funding mental health services and in managing social expectations from psychiatrists. Contexts such as assisted suicide of psychiatric patients [72] and clinical assessment during media-driven cases or proceedings [73] can significantly influence psychiatric cases in a scenario that changes quickly.

Emerging models in the DSM-5

Since the DSM-IV was first published, we have seen a remarkable progress in the field of neuroscience, ge-

netics, and social and human sciences [51]. Although the bio-psycho-social model has been well theorised and accepted, its application in diagnostic systems remains uncertain [74 75]. The DSM-5 task force had to find a balance between the newer advances and the older categorical classifications: it has been recognised that an excessively rigid categorical system does not properly describe all clinical aspects or symptoms that may occur in different disorders that are fluid over time [51]. Moreover, new diagnoses and disorder subtypes/specifications have been considered, and many clinical conditions, subjected to additional demonstration regarding their reliability, have been included in the *Conditions for Further Study* in Section III of the manual. In addition, the DSM-5 deals with other factors such as cultural and social-related conditions, as well as relational, educational, occupational and housing issues, which include economic problems or problems related to access to medical healthcare which may affect diagnosis, course of illness, prognosis and treatment of mental disorders [51]. *Other conditions that may be a focus of clinical attention* has been extended in the new edition of DSM-5 including problems related to family upbringing, problems related to primary support group, child/adult maltreatment and neglect, as well as educational, occupational, housing and economic problems. Interestingly, problems related to social environments are listed referring to the migratory condition and its related aspects [51]. Moreover, psychiatric home treatments may be suitable, but can be effective only if individuals and their careers have secure addresses, and the patient can be approached and treated [76]. Secondly, psychiatric disorders may themselves lead to homelessness, and homelessness leads to mental illness in a circular and vicious manner [77]. In fact, the DSM-5 brings attention to problems related to homelessness or inadequate housing/economic conditions, including extreme poverty and insufficient social insurance or welfare support. Many studies show a 5-6 fold increase in the mortality rate among homeless patients and higher cognitive impairment only partially due to the psychiatric condition [78]. International groups, in particular the European Psychiatric Association, aim to address social factors that may lead to homelessness [79]. The *Other conditions that may be a focus of clinical attention* section includes some categories focused on the different phases of life, as well as problems related to living alone, acculturation social exclusion or rejection, and discrimination or persecution. These conditions reflect the impact of social environments on the individual's diagnosis, treatment and prognosis, especially for people involved in migration, who are more likely to be (or have already been) exposed to trauma. This section also sheds light on spiritual problems, unwanted pregnancies, victims of terrorism or torture, problems related to access to

medical healthcare and all problems connected to social determinants of patients. These new categories confirm the attention of the international groups and societies in considering mental illness within the full framework of the bio-psychosocial model [80]. Section III of the DSM-5 provides a list of proposed disorders for future study and a comprehensive review of the cultural context of mental disorders. Proposed models include personality impairments as well as pathological personality traits, attenuated psychosis syndrome and non-suicidal self-injury, all relevant and frequent clinical conditions that still need more evidence for approval. We should also note that the current manual recognises how the cultural context of illness may be essential for an effective diagnostic assessment and clinical management [51]. The DSM-5 provides a framework for assessing information about cultural features of patients and their mental health problems. The DSM-5 deals with some constructed categories of identity such as *race* and *ethnicity*, which are involved in the aetiopathogenesis of mental health problems [77]. The outline for cultural formulation includes cultural identity of the individual, cultural conceptualisations of distress, psychosocial stressors and cultural features of vulnerability and resilience, cultural aspects of the relationship between the individual and the clinician, and overall cultural assessment. Cultural syndromes are clustered in groups, communities or contexts, and are recognised locally as coherent patterns of experience [51]. Cultural idioms of distress are ways of expressing distress that may not involve specific syndromes, but provide collective experiences and concerns. Cultural explanations or perceived causes are labels, attributions, features of an explanatory model that indicate culturally recognized aetiology for illness [51]. Among new conditions "for further study", the DSM-5 focuses on Internet gaming disorder as a significant public health relevant disorder. The DSM-5 has also revised the concept of traumatic events and related criteria for PTSD, which has been included in a new chapter on Trauma- and Stressor-related disorders. The trigger for PTSD is identified as an exposure to actual or threatened death, serious injury, or sexual violation. Indirect exposure is defined more specifically as "learning that the traumatic event occurred to a close family member or close friend", and "actual or threatened death must have been violent or accidental" [51]. The following changes have been made in the DSM-5: 1) PTSD has been moved from the group of "anxiety disorders" to the new category of "Trauma and stressor-related disorders"; 2) the traumatic event has been redefined and, as such, may create ambiguities and problems of interpretation; and 3) the symptom clusters have been changed, with the addition of more symptoms – negative beliefs/expectations, distorted blame, persistent negative emotions,

reckless or self-destructive behaviour, and a dissociative subtype has been added [51]. Recent research in neuroscience suggests that the malleability of memory and the process of reconsolidation improve the body's ability to respond to new or unforeseen emergencies – this is a complex but promising field of research in PTSD, which may lead to more effective and culturally appropriate therapeutic intervention, aimed at interfering or block the reconsolidation process [79]. However, the traumatic event itself does not sufficiently explain why the disorder develops or persists with time passing [79]. Risk factors may be related to the traumatic event or to the person experiencing the event (i.e. gender, educational level, previous traumatic experiences, child abuse, etc.) [79]. Moreover, studies among war-torn populations have shown that repeated exposure to trauma is cumulative, rendering a person more vulnerable to the development of PTSD: they found a linear decrease in mental health and social performances proportional to the increase in traumatic events [79]. The way that social and cultural factors may affect mental syndromes and disorders, and therefore their outcomes, deals with the concept of "pathoplasticity". The principles supporting this theoretical model include an examination of cultural factors on an individual's personality, while suggesting tailored treatments based on an assessment of pathoplastic models [79].

Conclusions

The current literature supports the belief that cultures in transition rapidly produce a quantity of spurious social variables that influence coping skills of groups and individuals. It is clear that the uncomfortable living conditions generated by the structure of globalisation are responsible for a great deal of exogenous psychopathology. Several authors are discussing new syndromes, while others believe that the crisis of postmodernity simply shed light on already discussed mental health conditions, paired with different resilience. In any case, many parameters of this ecosystem are changing. It is now believed that crises, as well as tools and processes that allow us to fight extinction (resilience), are part of the production of the same complexity that drives the multi-level (eco)systems. A place is vulnerable when it is hit by variance (variables) that affect social stability – an individual is vulnerable when he/she is sick, with alcohol and/or drug addiction, with poor access to resources, lack of proper information, difficulty of movement, lack of democracy (deficit of rights), contact with pollutants, or when living in areas with geopolitical crisis (political gap). The aetiology and clinical picture of the developing psychopathology has started to change. These changes are reflected in the psychopathology of children and adolescents, which may

have certain dynamics corresponding to changing social factors such as social media, economic downturn, etc. Thus, it is important to address the question of quality of the emotional family environment in which the child is growing up [81]. Moreover, it appears that certain types of PTSD may last for one's entire life, even traversing across generations and disrupting social attachments and adaptations. The analyses of changing paradigms should be the goal of research in the field of social neuroscience. Psychiatry provides fundamental knowledge, tools and studies that are now solidly established and continuously renewed. This field of studiy provides an important view on how the culture of groups can cause new pathologies and modify psychopathological symptoms.

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