



Viewpoint

Current trends in diagnosis and treatment of mental disorders

1. Introduction

The utility and validity of psychiatric diagnoses have often been questioned, to the point that in most radical approaches psychiatric diagnoses have been regarded as theoretical fictions [1]. Leaving aside extreme positions, several open issues relevant to diagnosis in psychiatry deserve attention. For instance, whether mental disorders are better conceptualized as discrete entities or as phenomena along a continuum of severity and, in the latter scenario, where the threshold for therapeutic intervention should be set.

In spite of the controversial aspects, as in all medical branches, the diagnosis is needed for communication with colleagues and users, for designing a treatment plan and formulating a prognosis, and for reimbursement and insurance purposes. For practical reasons, official classification systems are based on a categorical approach that, more recently, has tentatively been combined with a dimensional one.

In the present paper, I will briefly review current trends in diagnosis of mental disorders, as well in their treatment, and will highlight main limitations and promising approaches.

2. Current trends in diagnosis of mental disorders

2.1. The categorical approach

According to the categorical approach, often referred to as neo-Kraepelinian, diagnoses are discrete entities, there are clear-cut boundaries between normal and pathological states, as well as among different categories, a common etiopathogenesis (to be identified) underlies the pattern of symptoms on which the diagnosis is based, and a specific treatment should be identified for each category. Current knowledge, however, provides little support for this approach. Boundaries between normal and pathological conditions appear arbitrary; disorders are not separated by a “zone of rarity”; subthreshold cases are frequent and seem to deserve as much clinical attention as the ones above thresholds; no specific pathophysiology and no biomarker has been identified for any category so far; treatments are mostly aspecific; two individuals may qualify for the same diagnosis without having any symptom in common, and most individuals who have one disorder also qualify for additional diagnoses [2,3]. An improved definition of current diagnostic categories might contribute to overcome present

limitations; however, we cannot exclude the possibility that classification systems based on the categorical approach to diagnosis hinder the discovery of pathophysiological mechanisms and biomarkers of psychopathologic conditions. In addition, they do not enable clear definitions of earliest clinical stages of emerging mental disorders, and this may hamper prevention and early diagnosis.

2.2. The dimensional approach

The dimensional approach originates from the increasing evidence of overlapping genetic predisposition to and environmental risk factors for different psychiatric disorders, comorbidity between disorders, difficulties to set boundaries between categories and with healthy mental states. The approach is compatible with a continuum from normality to severe pathology, and with the existence of disorder spectra in which boundaries between disorders are not required. The dimensional approach has gained an increasing degree of interest in the last decade. In fact, it has been incorporated in the DSM-5, and in the Research Domain Criteria (RDoC) project [4]. Substantial differences characterize the two attempts. In DSM-5 the dimensional approach has been introduced alongside the categorical diagnoses, is optional, and mainly aimed at improving the diagnostic description. The RDoC project aims at re-orienting research on etiology and pathophysiological mechanisms underlying psychopathology from category-based to dimension-based, and at incorporating genetics, neuroimaging, and cognitive science methods into future diagnostic schemes [5]. Therefore, it does not represent an alternative classification system of mental disorders, but an attempt to promote new research approaches, possibly resulting in innovative diagnostic approaches in the future.

2.3. The network approach

In the network approach to psychopathology, psychiatric symptoms are not conceptualized as effects of a common cause, but as causing each other. Disorders result from the causal interplay between symptoms (e.g., worry → insomnia → fatigue), possibly involving feedback loops, which may stabilize the network in that particular state: for instance, a person may abuse substances to forget the problems that arose due to substance abuse [6]. The interactions between symptoms can be understood

as a network, in which symptoms are nodes and connections between nodes represent causal interactions between symptoms. If a symptom arises (which may occur for different reasons depending on person, time and context), this will influence the probability that a connected symptom arises as well. Thus, coupled sets of symptoms, which are close in the network structure, will tend to synchronize. Mental disorders then arise when groups of tightly coupled symptoms actively maintain each other, leading to a cluster of psychopathology symptoms that becomes self-sustaining. External factors that affect the network (e.g., adverse life events, inflammation, or abnormal brain functioning) are represented in the external field. They may be symptom-specific or shared by several symptoms.

Neither the dimensional nor the network approach are likely to find an application in the clinical practice in the short term. However, the use of dimensions is encouraged by the DSM-5 and most probably will be encouraged by the ICD-11. The RDoC approach is pushing in the same direction, of course with a strong focus on neurobiological underpinnings of the identified psychopathological construct. The network theory may represent an innovative framework for the integration of different levels of explanation (i.e., biological, psychological, sociological) of mental disorders.

3. Current trends in treatment of mental disorders

As to the context in which treatment of mental disorders is provided, a shift from long-term institutional mental health care to community-based services has occurred in most countries, although progress is uneven across Europe. The reason for the increasing adoption of this model are to be found in the evidence supporting its greater effectiveness [7].

In this context, different treatment approaches may be implemented, including pharmacological, psychological, social and occupational interventions. For the time being, especially pharmacological treatments officially conform to a categorical diagnostic approach, as they receive indications relevant to diagnostic categories, but in the clinical practice they are used to address one or more symptoms on which the specific diagnosis is based. An antipsychotic drug, for instance, may have received approval for the treatment of schizophrenia, but clinicians know that it mainly treats psychotic symptoms, while being ineffective for several other aspects of schizophrenia. In addition, ineffective treatment is sometimes provided to patients because available tools are not made available to all. Neuroimaging, for instance, might support differential diagnoses with neurological disorders and guide treatment implementation. Lesions of the frontal or temporal lobes, most often tumors, may underlie psychotic symptoms or depression; focal seizures due to traumatic lesions or a tumor may manifest with behavioral abnormalities and mimic a psychiatric disorder [8]. Though these conditions seem to have a role in a small percentage of cases presenting with psychiatric symptoms, their detection is clinically so important to deserve careful consideration. The assessment of inherited genetic variations in cytochrome enzymes, which can influence the body's response to drugs, is in its early stages; although promising, it still requires large controlled studies to demonstrate that its use in drug selection and/or dosing yields better results than usual clinical care. Guidelines assisting psychiatrists in the use of existing genetic information already exist for few drugs, and for others might be available in the near future [9]. Advances in this field might increase the possibility to identify poor metabolizers who experience side effects at usual clinical doses and therefore discontinue potentially useful medications, and might avoid labeling fast metabolizers as “treatment-

resistant”. Improvement in pharmacological treatment of mental disorders has certainly occurred, but more research is needed to promote the translation of potentially useful tools to the clinical routine.

In addition to this, it is worth noting that consistent evidence is available that the outcome of mental disorders is driven by a large array of factors [10], and therefore its improvement requires integrated and personalized treatment plans. However, the shortage of financial resources occurred in the last decade has restricted the treatment offer, and interfered with the implementation of integrated and personalized intervention plans. Of course, both financial and human resources are needed to implement a good treatment plan, but the investment is worthwhile, in the light of evidence showing that the cost/benefit ratio is positive in the medium-long term.

The increasing awareness of the importance of early intervention may also positively influence the treatment approach to mental disorders. Several factors have probably hindered or slowed down the translation in the routine clinical practice of available evidence. In particular, the need for specialized services and personnel, the definition of “early”, the limited amount of research aimed at the identification of who needs which treatment and when. Neuroimaging research has provided promising tools for the identification of those most in need of early intervention early in the course of a disorder or even before current diagnostic criteria for a full-blown mental disorder are met [11,12]. Of course, much is being done, as shown by many articles in this issue of *European Psychiatry*, but much is still to be done.

4. Conclusions

Current diagnostic and treatment approaches to mental disorders meet important needs, but also suffer from several limitations. For the time being, we might take the opportunity provided by DSM-5 (and most probably by the forthcoming 11th edition of the ICD) to combine a dimensional and a categorical approach to the diagnosis, and gather more insight into the possibility to match treatments and dimensions, also in a transdiagnostic perspective. The identification of a biomarker for each diagnostic category appears extremely unlikely, while the gradual dissection and refinement of psychopathological dimensions might lead to important innovations in both diagnostic and treatment approaches. Hopefully, future research based on different diagnostic approaches, will identify treatment targets more in line with the requirements of precision medicine than the present diagnostic categories.

In order to foster this development, large investments in research, as well as cross-fertilization between clinical experience and basic research, are highly needed.

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