# Schizophrenia and Related Disorders

# 25

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## 25.1 Concepts of Person-Centred Care in Schizophrenia

"Psychiatry is essentially about people, not (just) brains…" [53]. This conveys much of what psychiatry is about, and it is to investigate the role and function of psychiatry, of mental healthcare and all accompanying aspects of the diagnostics, therapy and care for people with schizophrenia, which is at the center stage of this chapter. Psychiatrists are holists par excellence, in that mental disorders affect the whole person and the need arises to integrate information from clinical assessments, neurobiology, socioenvironmental domains and psychological reactions of the patient to the development of a mental disorder. The major model of mental disorders is the biopsychosocial model [18], which is holistic in that it takes a multiperspective integrating several levels of analysis using empathic understanding of subjective experiences and other more objective tools to assess the presentation of mental disorders. One central aspect here is that the model may guide a "parsimonious application of medical knowledge to the needs of each patient" [8].

The publication of DSM-5 in early 2013 prompted a debate on the usefulness and validity of the "biologic" model of mental disorders, sparkled by contributions by individuals and a position statement by the British Psychological Society (http://www.theguardian.com/society/2013/may/12/psychiatrists-under-fire-mental-health). Also, the Research Domain Criteria Initiative (RDoC) of the National Institutes on Mental Health was challenged on the grounds that it overemphasized (neuro)biologic causes of mental disorders. While these arguments have been countered by the view that neither psychiatry nor the RDoC initiative rely solely on neurobiologic models of explaining mental disorders (http://www.theguardian.com/science/2013/may/12/dsm-5-conspiracy-laughable)

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[5, 16, 17], the question is still open how the person-centred approach of psychiatry and—for the purposes of this chapter—the underlying model of schizophrenia and related disorders can be optimized to become even more person-centred, and how such a personalized model may optimize the diagnosis and treatment of patients with schizophrenia. For the purposes of the following discussion, it is necessary to clarify that a solely neurobiology-oriented approach and a solely social or psychology-oriented approach will probably not lead to decisive improvements in the care of persons with schizophrenia. Integrated, multiperspective views taking the person affected by schizophrenia or related disorders with all his/her biological, social and psychological contexts into consideration is warranted to provide empowerment, healing and mental health for the person affected by schizophrenia.

Another conceptual issue arises and needs to be clarified: That is whether such a disease as schizophrenia (and related disorders) should be diagnosed after all. The grounds for this question arise in the observation that psychotic symptoms are frequently found in the general population, among these in many cases of people who do not develop mental disorders, and that the symptoms of psychosis are the results of childhood adversity and not due to a mental disorder at all, and can be controlled by providing coping strategies. There is now biologic evidence that childhood adversity experiences may have long-lasting impacts on individual psychosocial development including the emergence of mental disorders [4], but it seems unlikely that mental disorders can be understood solely on the basis of psychological or social adversity. Newly emerging study areas are the social neurosciences [1] and the research into gene–environment interactions [19], as examples of increasingly individualized, holistic approaches taking into consideration all putative etiopathogenetic mechanisms centering on the person and converging on common neurobiological pathomechanisms. Reductionist approaches do not seem to be promising anymore, be they purely biologic, psychologic or social. Rather, several different combinations from a multitude of genetic, life-experience or other socioenvironmental risk factors may interact to lead into a clinical picture of psychosis. As regards the notion of psychotic symptoms as parts of the normal human experience, it should be noted that such experiences are frequently associated with undetected mental disorders, situations of sleep deprivation or sensory deprivation, the influence of drugs and other substances of abuse and their withdrawal, or of a very short-term duration. In these cases, a diagnosis of schizophrenia would indeed not be warranted, however, medical diagnosis and treatment would still be warranted to detect underlying mental disorders, substance abuse or somatic disorders. Also, a significant proportion of persons of the general population who have psychotic experiences develop considerable help-seeking and distress, and fulfil the diagnostic requirements of schizophrenia, and even if no diagnosis is made, suffering may be present, as a large-scale WHO study has shown, both on the mental and the somatic level [38, 39]. These persons are in need of professional assistance and suffer from non-diagnosis and nontreatment. Efforts are therefore necessary to reduce this symptom-/disease-associated burden and will be dealt with later in the chapter. However, it would be unethical not to diagnose these persons with schizophrenia if this is warranted due to the clinical picture, simply on the

ground of conceptual reasons to avoid psychiatric diagnoses. Not making a diagnosis may imply that the person may not be entitled to receive the necessary therapy or social support in the existing healthcare systems. Therefore, for the time being, it seems necessary to be able to make the diagnosis of schizophrenia. Also, the diagnosis of schizophrenia has validity as regards treatment decisions and prognostic evaluations. Whether it would be useful to abolish diagnoses of mental disorders at all as prerequisites of receiving mental health support may be discussed—of course, from an ethical point of view, even without a diagnosis, a person in need has a right to be treated and supported. This is an ethical challenge for the current healthcare systems, in which support is provided only based upon a firm expert diagnosis of a mental disorder. This situation will not be easy to resolve since most systems rely exclusively on a diagnosis of a mental disorder as a prerequisite for social or medical assistance. However, beyond such rather conceptual or academic discussions, there is an urgent need to ascertain access to mental healthcare especially for minority groups or other underprivileged groups, who may not even have access to simple healthcare services due to their social status. This part of the population is on the increase given the social unrest and ensuing migration of whole populations, and has been an issue for studies in Europe recently showing that marginalized social groups are under special pressure and lack access to mental healthcare [45, 54]. The central question for personalized psychiatry therefore is not if diagnoses are warranted, but how to close eminent mental healthcare gaps.

Schizophrenia and the related disorders like schizoaffective disorder, acute and transient psychotic disorders, and delusional disorders, are frequent, severe and cause a significant level of impairment, disability and suffering to those who are affected by these mental disorders. Schizophrenia will be the focus of this chapter, since most research in this area has been performed in schizophrenia. Beyond that, schizophrenia—for the purposes of this book chapter—may be regarded as a typical example for all mental disorders, in that there has been considerable progress in elucidating its multifaceted etiopathogenesis (which is most probably featuring interindividually different compositions of biologic, psychological and social factors), but little if any real progress on the level of individualized mental healthcare. There is a considerable gap between excellent technological breakthroughs in the characterization of the genes involved in the etiopathogenesis and the neural network disturbances underlying the symptoms of schizophrenia on the one hand, and the influence of such knowledge on everyday mental healthcare. The “bench to bedside” gap in schizophrenia appears to have a considerable size. Therefore, this chapter sets out to analyze this situation and develop suggestions for a future advancement not only for research about the brain mechanisms underlying the etiopathogenesis of schizophrenia, but also for mental healthcare research with a view to provide immediate benefits for those affected by schizophrenia and related disorders. An effort may be needed to reconcile the domains of classification criteria, the personal meaning of psychotic experiences for the individual, and the gap between neurobiological dysfunctions and patient´s subjective experiences. An optimized person-centred model of schizophrenia and related mental disorders

would need to encompass these factors, relate to life experiences and individual coping strategies, and take impairments, social support and goal attainment into account (Fig. 25.1).

## 25.2 The Person in Schizophrenia—A Special Aspect of Schizophrenia

Schizophrenia and the related disorders are diagnosed on clinical grounds based on detecting a certain combination of clinical symptoms over a sufficient period of time and after the exclusion of somatic disorders and substance of abuse-related disorders, which may cause similar clinical pictures. There is still no gold standard accessory diagnostic instrument which may replace psychopathology, so that while the diagnostic criteria are "impersonal" in a sense that they apply to every person,

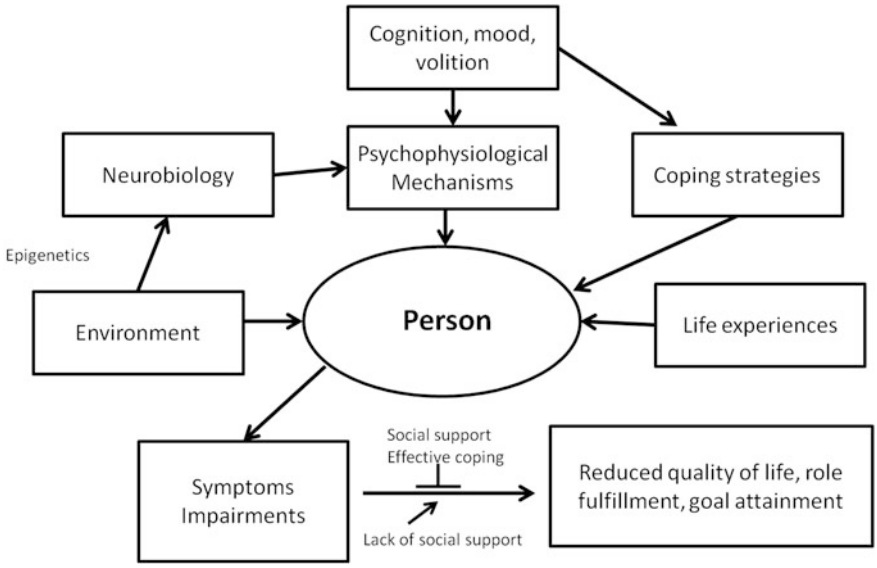


**Fig. 25.1** A new person-centered model of schizophrenia and related mental disorders. The person takes centre stage and shows psychophysiologically mediated alterations of cognition, mood and volition, which are shaped by neurobiological factors, life experiences and partially alleviated by individual coping strategies. Other environmental factors may act on neurobiological pathomechanisms ("epigenetics"). The resulting symptoms and impairments may reduce quality of life, role fulfilment and goal attainment, and may lead to unfavourable outcomes which may be fostered by lack of social support and which may be alleviated by positive social support and effective coping mechanisms. Note that there are feedback loops not depicted here, for example, in that a reduced goal attainment may unfavourably affect mood, leading to vicious cycles in the process of developing mental disorders. Antipsychotic drugs and psychotherapeutic procedures are therapeutically active via neurobiologic and psychophysiological brain mechanisms most likely converging on common final pathways

they are highly personal in that they take individual experiences into account and are actually centrally based on such experiences. The diagnostic process is highly dependent on first-person accounts of subjective experiences by the person of hallucinations and/or delusions, which affect the person deeply in most cases. This implies that the person as a whole is affected by these symptoms, and the symptoms are experienced as close to the individual himself or herself, and they may have immediate meaning to the person affected. Therefore, schizophrenia has a special aspect of affecting the person in its deepest foundations, consequently leading to experiences demanding explanations, causing distress and having consequences for the person´s everyday life. Therefore, it is warranted to say that the *person* is affected in schizophrenia, not just functional systems of the brain like neurotransmitter systems or modularized, interacting networks of oscillating neural circuitry. However, the latter are conditions which may underlie the ensuing personal affection and symptoms, and therefore need to be studied if an understanding of the mechanisms of the processes leading to the hallucinatory or delusional experiences is needed. These two levels of investigation, the "person as a whole" level and the "neurobiologic" level, cannot be separated, in that they influence each other and form both a basis and a consequence of the etiopathogenetic procesess in schizophrenia and the related mental disorders. A diagnostic process in schizophrenia will therefore only be complete if it is "of the person", which means that a complete assessment including symptoms (experiences) and impairments is warranted. It needs to be "with the person" in exercising respectful and empowering partnership with a common goal of mental health. It should be "for the person", keeping in focus that it is necessary to identify the individual health aspirations of the person seeking help. There is still a considerable degree of unmet needs in patients with schizophrenia, which is only partly met by reducing the symptoms of psychosis [23, 33]. It would be necessary to optimize the diagnostic and therapeutic process towards "by the person", meaning that the person seeking help is viewed as an equal partner in a transaction involving both professional and personal aspects with joint identification of treatment needs. To advance such an approach, Salvador-Carulla and Mezzich [44] suggested to address aspects both of "ill health" and of "positive health" in this process. But there may be practical challenges and limits to these ideals in everyday clinical practice of schizophrenia mental healthcare. These include, to name some examples, on the patient side: (a) the occurrence of disorder-related overvalued ideas with lack of insight into the pathological nature; (b) challenging behaviours like threats or withdrawal; (c) suicidality; (d) nonacceptance of therapy. While these need to be addressed in proper communication, there are also challenges on the professional side. These may include—but may not be limited to—(a) nonattendance to personal beliefs or needs of the patient; (b) lack of professional knowledge; (c) lack of continuing care for the patient due to structural limitations of the mental healthcare service.

## 25.3 Personalized Drug Therapy

Personalized drug therapy in schizophrenia and related disorders usually implies that certain biologic markers or endophenotypes are identified which may play a role in the pharmacodynamics of the used drugs. For the antipsychotic drugs, individual dopamine-receptor blockade levels can be measured, which are associated with antipsychotic effects, but also with side effects, and there is a wide interindividual variability of these associations [15]. Also, the dopamine system is connected with other neurotransmitter systems (glutamate, serotonin, to name just two) and dopamine-receptor blockade may be a necessary, but not a sufficient action of antipsychotic drugs to control symptoms [29]. Besides, high costs, exposure to radioactive tracer substances and nonavailability of the method are barriers to the implementation of such individualized procedures. In everyday clinical practice, the selection of antipsychotic drug therapy takes a multitude of individual aspects into account and is highly personalized already [14]: parameters of the primary disorder like the disease course, the current state and the predominating symptoms, psychiatric and physical comorbidities, past treatment effects, individual patient preferences, drug availability and individual acceptability of different treatments and formulations, as well as the expected efficacy and safety of the proposed treatment. Thus, choosing an antipsychotic drug is the result of a complex and highly individualized decision making procedure involving both objective and subjective factors.

Clinical response to drug therapy as measured by psychopathological assessments is usually the response measure of choice in clinical trials assessing the efficacy of antipsychotic drugs. Increasingly, more complex "outcome" measures like "recovery" are taken into account. Model studies employing such combined approaches are available in schizophrenia and have shown that the longer-term aspect of recovery is heavily influenced by a range of factors including short-term symptomatic remission rates [47]. In a wider sense of a psychiatry of the person and its implications for schizophrenia and related disorders, this would imply that drug therapy is initiated "with the person" using strategies of shared decision making and keeping the individual´s treatment goals and values in focus. It also implies drug treatment "for the person", identifying not only health-related, but also more general aims in life with a view to integrate mental health into the context of the person´s life situation, goals and impairments. Drug therapy-related attitudes of patients with schizophrenia are predictors of treatment adherence, indicating that considering such person-related factors in patient education and information may be an important measure to increase the efficacy of antipsychotic medication [21]. Establishing a therapeutic alliance between the patient and his/her treating physician leads to drug therapy "by the person", who becomes more than a passive recipient of drugs. This then leads to drug treatment "of the person", meaning that a complete assessment of impairments including issues of quality of life, role fulfilment and social integration come into play. There are specific challenges to be expected: such assessments of treatment needs would become complex,

multidimensional and time consuming. Also, such assessments may have little relevance to actual drug treatment decisions, simply because all antipsychotic drugs will have comparable side effects and excellent efficacy, with the need to find the optimal drug and dosage in each individual case. Not in all cases is it possible to integrate this into the whole life plan—simply because a person with schizophrenia may have delusion- or hallucination-driven plans, which may—from a clinical point of view—not be regarded as the person´s autonomous wish, but rather results of a disease process. Therefore, finding optimal drug regimens may always be burdened by the need to find workable compromises between the aspect of "covering every aspect of life", individual goals and the real world limitations of mental health care. Also, it may be necessary to identify and evaluate limitations of the treating physician's and the person's capacity to act ideally, and it may become prudent during the disease course to develop ways to handle such limitations rather than ignoring them.

## 25.4 Personalized Psychotherapy

Similar to drug therapy, psychotherapy by virtue of its nature is a personal affair in that it should benefit the patient individually and that it is heavily reliant on a personal relationship between the patient and his/her therapist. Psychoeducation has been an important aspect of forging a therapeutic alliance and is also effective in reducing rehospitalization [28], especially when combined approaches using psychoeducation and cognitive treatment are employed. A special aspect of the psychotherapy of schizophrenia is that it has long been neglected as a potentially effective therapeutic approach. In the early 2000s, increased interest in psychotherapeutic approaches emerged [3] and has accelerated with the emergence of cognitive-behavioural psychotherapies for positive and negative symptoms [31, 42]. Disputes about psychotic experiences do not negatively affect the therapeutic alliance course and applying cognitive-behavioural techniques may significantly alleviate symptom burden in patients with symptoms of psychosis [58]. Therefore, the picture of psychotic disorders as contraindications for psychotherapeutic measures is not warranted any more. Following these therapeutic successes, cognitive models of psychosis were further developed and are now increasingly based on research evidence including neurobiological studies and psychological investigations (reviewed by Sarin and Wallin [46]). In the psychoanalytic schools, there is still few research on its use for psychotic patients, but a re-emergence of interest in applying psychodynamic or psychoanalytic approaches in the care of people with schizophrenia can be observed [26, 51]. The approaches of individual understanding and highly personalized (individualized) care used in traditional psychoanalytic settings may provide interesting insights into the nature of psychotic disorders [30], but new research is necessary to prove efficacy and to show which kinds of psychoanalytic or psychodynamic approaches are best suited for which type of patient and in which disease stage. Issues of body–mind relationship and of the separation of oneself from the therapist in the patient-therapist relationship emerge. An important aspect in the

sense of a more personalized approach may be the role of families, shame and guilt [36]. The studies in brief family-oriented interventions are few and a Cochrane review concluded that the size and quality of studies would need to be augmented in the future [40]. New family therapeutic approaches including culturally sensitive aspects of minority ethnicity show the feasibility of such approaches in clinical practice and some efficacy in reducing symptom loads, but would need further larger-scale trials to be generalizable [57]. Other new psychotherapeutic approaches aim at increasing the mentalizing capacities of patients with psychotic disorders, an approach designed to foster self and other understanding [10]. Person-related factors like attachment styles have been shown to be associated with the course of psychotic disorders and may provide new avenues for the psychotherapy of psychosis [32]. Another approach in psychotherapy is to deny the medical model and focus on past experiences of abuse or trauma as putative causes of hearing voices [43]. Such reductionist approaches may be superseded by the current knowledge about the social neurosciences, which integrate personal histories of adversities with neurobiological factors.

## 25.5 Personalized Rehabilitation Therapy

The effectiveness of individualized rehabilitation therapy for schizophrenia and related disorders has made progress in two related areas. One is research showing that cognitive therapy will improve workplace related outcomes [37], and the second is that supported employment programmes providing individualized placement and support are very effective in those countries in which traditional rehabilitation measures have not been successful. Meta-analyses show that the availability and the implementation of such effective rehabilitation programmes are the decisive factors to foster improvements of the results of workplace rehabilitation programmes for people with severe mental disorders (reviewed by [6]). In that individual life decisions like which work to chose, where to take residence and how to engage oneself in work-related or educational activities come heavily into play in rehabilitation services, these provide an area of person-centred mental healthcare for persons with schizophrenia and related disorders which deserves considerable attention. In rehabilitation medicine assessments, the comprehensive International Classification of Functions (ICF) developed by the World Health Organisation [12] provides an excellent framework for assessing and classifying not only symptoms of mental disorders, but also the kind and degree of social support, functional impairments and ensuing disabilities. The ICF approaches disorders in general from a bodily aspect, which means the psychopathological level in mental disorders, but also includes a more comprehensive perspective ("the entire health experience"), and an overarching view ("the human experience"), which considers health as part of the human condition [12]. It is mentioned here among the personalized aspects of rehabilitation, as the ICF plays a role in assessing rehabilitation needs and therapy. The ICF puts special emphasis on the person in his/her social context and the ensuing health-related issues, which play a centre role in rehabilitation medicine [13].

Beyond rehabilitation medicine, the ICF could be a first step towards holistic, person-centred diagnostic documentation of "the whole person" and his/her social relationships, their effects on mental health, and serve to identify and specify domains of putative therapeutic needs for support. A drawback is obviously the comprehensiveness of the ICF assessment, which requires much time.

## 25.6 Guidelines and Quality Indicators in Schizophrenia—the Inclusion of More Person-Centred Approaches

Guidelines and quality indicators are important determinants on how patients with schizophrenia are diagnosed and treated. They are constructed in elaborate structured processes, in which both scientific evidence is being considered and the views of stakeholders like patients and the families of patients with mental disorders [27]. The evidence-base is mostly a set of randomized controlled trials (RCT), and it can be assumed that what works in RCTs will also work in everyday clinical practice, as shown by previous studies [48]. A recent review showed that there is a multitude of schizophrenia guidelines available [22]. For a discussion about the role of guidelines in a personalized psychiatry of schizophrenia and related disorders, there are important associations between symptomatic remission, which usually takes centre stage in RCTs, and the levels of quality of life and subjective well-being, indicating that future outcome measures could incorporate these additional components to increase the "person-centredness" of guidelines [50]. An important aspect is, however, in which way crucial concepts like "response", "remission" or "recovery" are defined in the studies used for formulating guidelines and quality indicators. Here it is that a "psychiatry of the person" may also come into play in that it provides ideas and suggestions about the levels of understanding, insight and empowerment as additional constructs for outcome measures. Studies suggest, for example, that improving insight may improve clinical outcomes [49]. It would be necessary for a more personalized psychiatry to define its preferred clinical trial outcomes and treatment goals for the inclusion in the processes of guideline and quality indicator development. Also, measurements would be needed that assess the degree of individualization of therapies and the degree of evidence-based implementations of diagnostic and therapeutic procedures. Such scales are under development and first results show that the effects of implementing such comprehensive programs of individualization and evidence implementation may lead to only transient effects [7]. However, developing assessment tools and evaluating the efficacy of individualization and evidence-implementation programs would also necessitate a consensus between patients, psychiatrists and other stakeholders of mental healthcare in schizophrenia and related disorders to be developed about the relevant outcome measures or quality indicators. Obviously, such a process would need to lead to concrete formulations of operationalizable concepts of assessment of the "personalized" outcome measures, which would then become a part of the evidence evaluation underlying guideline and quality indicator development. Such an approach could also foster more research in this direction. An example of the

complexities of such an endeavour is the discussion about the definition of the term "recovery", for which clear and internationally accepted definitions are not yet available. The diversity of definitions impedes progress in this area. Currently, the International Initiatives of Mental Health Leadership (IIMHL) is setting out to develop a consensus definition of recovery, which may serve as a model for further development in this field [52]. Trialog-based development of quality indicators and guidelines should become the rule [27].

## 25.7 People-Centred Systems of Mental Healthcare in Schizophrenia

Given the complexity of schizophrenia and related mental disorders, the necessary mental healthcare services are also complex ranging from prevention and early recognition over acute phase treatment to chronic phase treatment. As schizophrenia affects the whole person, mental healthcare is not limited to providing symptomatic relief, but also to provide secondary prevention, social services, rehabilitation services and support to the families and friends of those affected by schizophrenia. Aspects of comorbidity with substance-related disorders and an increased rate of somatic disorders with ensuing need for advanced somatic and general healthcare are additional factors. For example, in somatic healthcare, raising awareness for the somatic healthcare needs of patients with schizophrenia increased the rate of patients with annual medical healthcare status assessments from 20 to 58 % [56]. There is limited evidence that offering structured integrated mental health care programmes may also improve the situation of people with severe mental illnesses regarding their general somatic health [9]. Thus, there is a multidimensionality of potential areas of assessing and optimizing the "person-centredness" of schizophrenia health care, and there are multiple types of services and professions which need to be involved. It seems an impossible task to tackle all these issues simultaneously, but there are two major aspects concerning the nature of schizophrenia and related mental disorders, which may need to be prioritized in a future more person-centred system of mental healthcare: (A) The individual degree of medical therapy, empowerment and recovery-assistance may be very different depending on the disease course type (for example, continuous versus episodic with relapses and remissions), disease severity (for example, moderate versus severe symptoms) and the type of functional impairment (for example, need for workplace rehabilitation or housing). Schizophrenia usually affects all aspects of the person, but with time-variable degrees, and therefore comprehensiveness and flexibility of services is of high importance. (B) There is still a considerable degree of stigmatization against persons with schizophrenia and related disorders, which not only is exerted by the public, but also by mental health professionals and general medical professionals. The latter is especially concerning as studies have shown that people with schizophrenia not only have an excess mortality due to general medical conditions, but that there is also a considerable health care gap for somatic disorders in schizophrenia. To improve matters, a

person-centred mental healthcare service should also implement measures to reduce the stigma of psychiatrists and the healthcare services caring for the mentally ill, since such stigmatization will reduce the acceptability of these services and have detrimental effects on the trust by users in such services [24, 25]. Therefore, people with schizophrenia pose two challenges to mental healthcare systems beyond the traditional issues, in that person-centred, needs-adapted, flexible and comprehensive mental and somatic healthcare services are necessary, which may not only lead to a need for many different kinds of mental health services, but also to the necessity of coordination of services. Therefore, structured programmes like disease management programmes may need to be developed addressing these structural and organizational challenges. As regards stigmatization, the focus should not only be on the general public, but needs to address general medical health services with a view to reduce the somatic healthcare gap and morbidity and mortality due to general medical conditions of persons with schizophrenia and related disorders. Besides these structural components, the person-centredness of services needs to be ascertained at all levels of the services, starting in the consulting room, involving the relevant mental health care organizations like hospitals (general and psychiatric), community mental health services, private practices, the families and the communities, and society as a whole, especially politicians responsible for mental health services, health insurance companies, employers and public agencies. Carrying the information about schizophrenia and the associated needs into all these circles will be a major challenge for mental health education programmes and psychiatrists, since one of the cornerstones of increasing empowerment and reducing stigmatization will be to inform those involved in the care of persons with schizophrenia about the nature of the disorder, its course types, the needs for services and how to best provide them.

New approaches for schizophrenia mental health care also warrant further investigations. For example, the Soteria approach tries to minimize drug therapy and improve empowerment, with few controlled trials so far showing that the approach shows similar results as traditional approaches [11].

## 25.8 Person-Centred Mental Health Education in Schizophrenia

The key aspect for providing person-centred mental health education is to address both the patient and those involved in providing or organizing mental health care for those with schizophrenia and related disorders. It would be warranted to place an emphasis on the treatment needs of people with schizophrenia, but also on the treatment options and the treatment successes possible. Psychiatrists would be experts par excellence to convey these messages to the patients, their families and their professional peers, but also to mental healthcare stakeholders like service providers, politicians and health insurance companies. This would imply new functions for psychiatrists, and would make it necessary to provide educational materials for the different target groups of such informational campaigns.

Professional psychiatric societies could become proponents of such initiatives assuring a high degree of scientific quality of such materials and campaigns. Besides this, medical schools curricula and psychiatry specialty residency programmes could include training in educational activities focused on psychoeducation, but also in anti-stigma initiatives. With a view towards strengthening person-centred approaches, a recent study showed that an educational activity including both neurobiological and social aspects of schizophrenia was effective to reduce stigmatizing attitudes of medical students [35]. Becoming proponents of person-centred mental health education in schizophrenia could provide psychiatrists with an opportunity to gain or increase trust by their patients, and could provide opportunities for joint appearences in the public with a view to destigmatize both mental disorders and the professions who care for people with mental disorders. Person-centredness would thus manifest itself on a new level, namely in the public domain breaking down barriers not only between patients and the public, but also between patients and care providers. Working together in these important educational activities could provide a new framework of empowerment and inclusion.

## 25.9 Person-Centred Research in Schizophrenia

Much of the research in schizophrenia has been based on group analyses. This has led to an inflation of information about genes associated with schizophrenia, brain imaging data on structural or functional alterations, and associations with social and environmental factors. While this has clearly advanced the understanding of the etiopathogenesis of schizophrenia and—by analogy mostly—of related mental disorders, these research results have had no major influence on individual diagnostic or therapeutic decisions. As it is becoming increasingly evident that there is a range of "pathways" leading into schizophrenia [55], the need arises to define the individual pathways in the individual who is affected by schizophrenia. An important step in this direction is the elucidation of the genetic risk factors, which are multiple, nonspecific and overlapping in individuals. Currently, an approach typifying sets of phenotypic and genotypic characteristics of schizophrenia patients appears promising to not only demonstrate the high degree of complexity of genotype-phenotype associations in schizophrenia, but also to allow further research based on clearly defined sets of genotype-phenotype associations [2]. It is critical to use a person-centred approach to the particular pathway from genotype to phenotype, allowing for different trajectories responsive to unique environmental, social, and therapeutic interventions. The Research Domain Criteria initiative of the National Institutes of Mental Health is conceptualizing research on such a neurobiological-individual basis, and a recent example on the pathophysiology of hallucinations from the initiative showed how this integrates constructs of auditory percepts with phenomenological experiences and individual reactions, providing a "person-centered" approach on all levels of analysis [20]. While such individualized information would be necessary to ultimately design truly individualized, pathogenetically informed therapeutic measures, it is unlikely that this ambitious

goal may be reached soon. In the meantime, it is important to continue to identify the etiopathogenetic mechanisms at work in schizophrenia, but at the same time improve mental health care with a view to increase the person-centredness of the diagnostic approaches, the therapies and the mental health care services which care for people with schizophrenia. New trends reconciling (neuro)biological approaches with socioenvironmental and psychological approaches are promising to shape future research and lead to improved person-centredness of the diagnostic and therapeutic processes. These advances will also support the further development of the concepts of mental disorders in general and schizophrenia and related mental disorders more specifically [1]. Until such research has provided new breakthroughs of relevance to the concept of mental disorders, evidence-based practices fostering empowerment and recovery are available and need to be implemented (see [34], and the discussion therein). It is still difficult to identify the optimal mental health care service structures, the necessary processes and the best outcome assessment strategies. Two areas of potential research actions immediately come to mind with a view to advance in this direction and make significant progress to the best of those suffering from schizophrenia: (A) it is important to investigate the best way to educate medical doctors (not only psychiatrists, nurses, social workers and psychologists) about the nature of the person-involvement in schizophrenia with the ultimate goal to overcome stigmatizing attitudes. (B) It is important to investigate in how far awareness programmes are effective in convincing mental health politicians that persons with schizophrenia have highly different individual needs for mental health care, so that a range of services will need to be provided in each mental healthcare system. This shows that it is important to extend efficacy research beyond drug treatments, if optimized person-centred mental healthcare is to be achieved.

Ozomaro and co-workers recently described the need to go beyond physiologic markers in personalized medicine for persons with mental disorders [41]. They characterized personalized medicine in mental disorders by the major goals of predicting an individual's susceptibility to developing an illness, achieving accurate diagnosis, and optimizing the most efficient and favourable response to treatment. While all these aspects are clearly highly warranted goals, they may be extended by optimal goal fulfilment, satisfaction with life and the highest possible quality of life. This includes implementation of optimal mental healthcare services. Of note, these added goals may include a high degree of subjective estimations by the person affected by schizophrenia or a related mental disorder. But given the necessity to not only treat symptoms, but to optimize the well-being of those suffering from mental disorders to the highest possible degree, such person-centredness at the levels of diagnosis, treatment and mental healthcare may be the best road towards optimized person-centred care in schizophrenia.

## 25.10 Conclusions

This chapter shows that approaching schizophrenia and related disorders under person-centred perspectives has to consider several levels of analysis, ranging from the subjective experiences of a psychotic disorder to the objective assessment of psychophysiological consequences, effects of role fulfilment in life and the reaction of the social environment. This also includes questions of mental healthcare for persons with schizophrenia and how it can be optimized to yield the best possible results. Thus, two fields of action emerge for the future with a view to increase the person-centredness of schizophrenia research and health care: to obtain more information on the complex etiopathogenesis of schizophrenia and—until this is available—to optimize the person-centredness of mental healthcare for those affected by schizophrenia and related psychotic disorders.

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