Psychiatr. Pol. 2022; 56(2): 261–276
PL ISSN 0033-2674 (PRINT), ISSN 2391-5854 (ONLINE)
www.psychiatriapolska.pl
DOI: https://doi.org/10.12740/PP/131623

Characteristics of attachment styles in adults diagnosed with psychotic disorders – a research review

Jarosław Stusiński[1], Wojciech Merk[2], Michał Lew-Starowicz[2]

[1] Department of Medical Sexology and Psychotherapy, Centre of Postgraduate Medical Education
[2] Department of Psychiatry, Centre of Postgraduate Medical Education

Summary

Attachment theory offers a coherent conceptualisation of emotional bond formation, social functioning and affect regulation, which can be helpful in explaining the onset and course of mental disorders, as well as optimising the healing process. Despite the growing interest in the importance of attachment in psychopathology, this issue has not been explored in the population of patients suffering from psychotic disorders (PD) in Poland.

The aim of this study is a comprehensive approach to attachment in adults in the context of PD, i.e. to integrate existing reports on the specificity of attachment in adults with PD and the role of attachment in the aetiology of PD, its course, patients' functioning, and the healing process. Attachment can provide an important theoretical perspective, offering opportunities to understand PD and to plan clinical strategies tailored to the individual needs of patients.

Among people with psychotic disorders, insecure attachment patterns are more common, which corresponds to reports of increased prevalence of traumatising childhood experiences in this group. Insecure attachment can negatively affect the psychosocial functioning of people diagnosed with psychotic disorders in interpersonal relations, metacognitive skills and affect regulation. Relationships between insecure attachment and the severity and specificity of productive symptoms, especially hallucinations and delusions have been demonstrated. Patient attachment patterns can affect the interpersonal component of psychosis treatment, including relationships with psychiatric staff and therapeutic alliance. Considering this perspective by adjusting interactions to patient attachment patterns, as well as increasing safety in the therapeutic relationship can translate into improved patient treatment.

Key words: attachment, psychotic disorders, interpersonal relations

Introduction

Research on the specifics of attachment in people with psychotic disorders (PD) and its importance in the formation, course and treatment of these conditions has

been conducted for about three decades[1]. To the best of the authors' knowledge, no cross-sectional or prospective study on this subject of the Polish population of people diagnosed with PD has been published so far. The purpose of this study is to present the theoretical foundations and to summarize current knowledge about attachment in adults diagnosed with PD[2].

Theory of attachment

Attachment theory, introduced by Bowlby [1], assumes that early relationships with primary caregivers shape the sphere of the subsequent relational functioning of the individual. Attachment is a type of lasting emotional relationship formulated in relation to a particular person, characterized by a desire for closeness and experiencing stress in a situation of unwanted separation. Early childhood experiences lead to the formulation of working models composed of mental representations of themselves, other people and relationships with them, which are the basis for interpreting experiences, managing their behavior and regulating mood. A properly functioning relationship with caregivers should simultaneously allow exploration and development of independence, as well as provide a sense of security and neutralize negative emotions [2-4]. Attachment needs are triggered when we experience negative events or emotions and are satisfied through closeness of caregivers and their quick response – providing comfort and care [5]. The research of Ainsworth et al. [6] assessing the child's response in a situation of separation from the caregiver ("foreign situation procedure") has allowed for the separation of three organized attachment patterns: *secure, avoidant* and *ambivalent*. Main and Solomon [7] supplemented this division with a disorganized pattern. These patterns, called attachment styles, have also been described in relation to adults.

Secure attachment is shaped in relation to an available and sensitive caregiver and in adulthood is expressed through the ability to create close emotional relationships while maintaining autonomy. The other three styles represent insecure attachment. Avoidant attachment arises as a result of a child learning how to inhibit emotional expression due to its ineffectiveness in causing the expected response of caregivers and directing attention to exploration. In adulthood, it is characterized by excessive emotional control, avoidance of close relationships, and focus on achievement [2-5]. Bartholomew [8] distinguished two types of avoidant attachment: fearful*,* in which avoidance is to protect against rejection or injury, and dismissing, in which avoidance is to secure a sense of independence and self-reliance. Anxious attachment, also known as ambivalent, anxious-ambivalent or preoccupied is a consequence of inconsistent availability of caregivers and a constant need to attract their attention, resulting in ex-

[1] The reader will find a list of studies on this subject in three literature reviews [2, 3, 11] and a meta-analysis [9].

[2] The paper does not include the issues of assessing attachment made by children and adolescents with PD and assessing the relationship with parents in childhood made by adult patients [cf. 2, 3, 9].

aggerating negative emotions and limiting exploration. This pattern leads in adulthood to insufficient emotional control and autonomy, associated with excessive expression of negative emotions and high dependence. Disorganized attachment is shaped when caregivers themselves are perceived by the child as a source of anxiety or danger and are associated with childhood experiences of negative phenomena, e.g., neglect, loss or various types of violence. There are two types of this style: unresolved, characterized by episodic disorders of organized patterns, and cannot classify, characterized by a lack of dominant organized patterns. Disorganized attachment does not allow for the creation of coherent strategies for regulating emotions and creating interpersonal relationships. It is common in the literature that disorganized attachment in adulthood represents a fearful style, characterized by high levels of both anxiety and avoidance in interpersonal relationships [2-5, 9, 10].

Attachment styles show relative stability over time. Attachment in adulthood, however, does not depend entirely on the patterns formed in childhood and can be modified by later experiences, e.g., loss and/or creation of important relationships or trauma. It should also be noted that the relationships created between adults significantly differ from the caregiver-child relationship in terms of their specificity (mutuality of care) and the functions they perform (sexual relationships, company, shared experiences and goals, etc.) [2-5].

Measurement of attachment in adulthood

There are two approaches to measure attachment in adults: narrative and self-report [2, 11]. The narrative approach is represented by Adult Attachment Interview (AAI) developed by Main et al. [12]. This is a partially structured interview defining "states of mind" in relation to attachment based on the assessment of the individual's narrative coherence in describing his relationship with parents. On this basis, the subjects are qualified into one of four styles: autonomous, dismissing, preoccupied and unresolved.

Within the self-report approach, the respondents assess their attachment in relation to relationships formed in adulthood, especially romantic ones. Hazan and Shaver [13] were the first to recognize that attachment processes in adulthood represent romantic love. The Adult Attachment Questionnaire (AAQ) constructed by them allows qualifying subjects based on their relationship with partners to one of the three attachment styles initially distinguished by Ainsworth (secure, avoidant and anxious-ambivalent). This approach resulted in creation of further tools for categorizing attachment prototypes in adults [2, 3, 11].

As an alternative to the categorical model predicting different prototypes, attachment can be assessed in a dimensional model, i.e., in relation to two dimensions: taken in the affective-behavioral sense as anxiety and avoidance or in the cognitive sense as a model of yourself and others [2, 3]. Bartholomew [8] proposed a model that includes both prototypes and attachment dimensions. In this approach, the configuration of the positive or negative dimensions of self (anxiety) and others (avoidance) allows us to

distinguish four categories of attachment: secure, preoccupied, dismissing and fearful. She also stated that individual patterns are not disjoint, but often overlap.

The tool specifically designed to assess attachment in adults diagnosed with PD is the Psychosis Attachment Measure (PAM) developed by Berry et al. [14]. It does not include questions about romantic relationships but focuses on the current relationship of respondents to important people in their lives. A list of attachment assessment tools used in research among psychotic patients is provided in Table 1.

Gumley et al. [11] in a systematic review on attachment in PD observed an exceptional agreement of results of studies, despite methodological differences, which they considered as evidence supporting the theoretical accuracy of measuring attachment in people suffering from PD. In Poland, the basic tool for assessing attachment in adults is the Plopa [15] Attachment Styles Questionnaire (KSP). KSP is based on the concept of Hazan and Shaver, and therefore refers to romantic relationships, which limits its applicability only to people who have experienced such a relationship.

Table 1. **Tools used to measure attachment in adults suffering from PD [3, 4, 10, 11]**

Name	Authors	Application
Adult Attachment Interview (AAI)	Main et al. [12]	Assessment of attachment based on descriptions of relationships with caregivers in the dimensions: secure-insecure and deactivation (avoidance) – hyperactivation (anxiety), as well as in relation to four styles: autonomous, dismissive, preoccupied and unresolved.
Psychosis Attachment Measure (PAM)	Berry et al. [14]	Assessment of attachment to important characters in the dimensions of anxiety and avoidance.
Attachment Style Questionnaire (ASQ)	Feeney et al. [16]	Assessment of attachment regarding relationships with others in the following dimensions: discomfort (avoidance), relationships as secondary (avoidance), need for approval (fear), preoccupation (fear) and trust (fear) and in relation to four styles: autonomous, avoidance, preoccupied and ambivalent.
Relationship Questionnaire (RQ)	Bartholomew and Horowitz [17]	Assessment of attachment in the field of friendship patterns in the dimensions of fear and avoidance and in relation to four styles: secure, fearful, preoccupied, dismissing.
Service Attachment Questionnaire (SAQ)	Goodwin et al. [18]	Attachment assessment in relation to hospital staff on a safety scale.
Revised Adult Attachment Scale (RAAS)	Collins [19]	Assessment of attachment in romantic relationships on three scales: closeness, dependence and anxiety.

table continued on the next page

Adult Attachment Questionnaire (AAQ)	Hazan and Shaver [13]	Assessment of attachment in romantic relationships in relation to three styles: secure, avoidant and anxious-ambivalent.
Experiences in Close Relationship (ECR)	Brennan et al. [20]	Assessment of attachment in important relations in the dimensions of avoidance and anxiety.

Characteristics of attachment in people suffering from PD

Three literature reviews, two of which are systematic reviews [3, 11], on attachment in adults suffering from PD indicated a greater prevalence of insecure attachment among them compared to control groups, with higher scores being noted especially for the avoidant pattern [2, 3, 11]. Harder [10] states that the dismissing and disorganized attachment patterns are over-represented among people with PD.

A meta-analysis of Carr et al. [9] revealed a significant prevalence of insecure attachment styles among people with PD, amounting to 76%, significantly higher than in non-clinical groups (38%). Analysis of the distribution of insecure attachment styles among people diagnosed with PD showed the highest incidence of fearful styles (38%). Avoidant style was found in 23%, and anxiety in 17% of those with PD. The incidence of fearful attachment can be significantly underestimated because this style was not included in most of the analyzed studies. The findings of Carr et al. [9] differ from previous reports on the prevalence of avoidant style among people with PD. In their opinion, this may result from various ways of assessing attachment in individual studies, as well as taking into account groups at increased risk of PD in their meta-analysis. In general, however, such a high prevalence of insecure attachment among people with PD is consistent with reports of an increased incidence of experiences in early stages of development that may adversely affect attachment patterns [9; see 21, 22].

The role of attachment in the development of PD

Trauma experienced at an early stage of development, negative events, neglect or inadequate upbringing approaches are considered factors that can affect brain development, and thus change the functions of neuroendocrine affect regulation and cognitive functions. Debbané et al. [23] described five neurobiological pathways combining insecure attachment with the risk of developing PD in predisposed individuals, including hyperactivity of the hypothalamic-pituitary-adrenal axis, dysfunction of the dopaminergic system, reduced levels of oxytocin, and the effect of inflammatory reactions of the nervous system and oxidative stress. In their opinion, abnormal neurobiological processes relevant to the development of PD may occur under the influence of early stress-inducing experiences in attachment relationships, especially during critical periods of nervous system development. Rajkumar [24], on the other hand, characterized

numerous neurobiological similarities between people with attachment disorders in childhood and those suffering from schizophrenia.

Neurobiological processes connected with insecure attachment can modify further mental development in two main areas. First of all, affect regulation mechanisms may be disturbed, which would increase the vulnerability to stress and at the same time reduce ability to cope with it. Secondly, the disorder may involve metacognitive skills. In the case of people suffering from PD, there is an impairment of the ability to identify and understand one's own and others' mental states, such as beliefs, emotions and intentions, referred to as "mentalization" and "theory of mind"[3]. In addition, early traumatic experiences favor dissociation, which can become an activated response, perpetuated and aggravated by later stressful situations, also negatively affecting the ability to regulate affect and metacognitive skills [3, 9, 11, 25, 26].

As a result, the ability to coherently and adequately recognize and interpret messages about yourself, others or the social sphere in general is disturbed, and adaptive coping strategies are not developed. During development, shaping incorrect explanations of social experiences combined with emotional hypersensitivity may initially promote prodromal symptoms of PD, and then the occurrence of a full-blown psychotic episode [9, 23-27].

Harder [10] assumes that the two most common insecure attachment styles among people with PD: dismissive and disorganized, are associated with separate risk mechanisms in the development of PD. For the dismissive style, she mentions deactivation of affect, incorrect mentalization and the use of externalizing behavioral and cognitive strategies, and for disorganized, increased sensitivity to stress and dissociation. Korver-Nieberg et al. [3] suggest that insecure attachment can be a susceptibility factor for an unfavorable course of the disease later in life. This is due to social withdrawal and poorer quality relationships with others, which in itself can be a source of stress, as well as hampering the protective effects of positive social relationships.

The relationship between attachment and neurobiological factors predisposing to development of PD should not be considered in terms of simple causal relationships. Disturbances in anatomy and physiology of the nervous system specific to PD can manifest very early, affecting attachment relationships and later affecting ability to regulate affect and metacognitive abilities [cf. 24]. Deficits in these areas may appear with the onset of symptoms and increase with them, and the worse course of the disease may also contribute to social withdrawal of patients [3]. Only some people with insecure attachment patterns develop PD and not all people with PD exhibit insecure attachment. The PD should be treated as a highly stressful life event, having a far-reaching impact on forming attachment [2, 9, 10, 24].

[3] In the literature on this subject, it is common to identify with each other the constructs of mentalization and theory of mind [cf. 25].

Attachment and psychosocial functioning of people with PD

Insecure attachment, often found in PD, is characterized by problems with psychosocial functioning in the field of interpersonal relationships, mentalization and theory of mind, and emotional regulation.

Interpersonal relations

In the study of Berry et al. [28] on a group of 58 patients with PD, the subjects reported on average having two attachment relationships. Assessment of attachment in relationships with parents and psychiatric staff revealed different levels of anxiety and avoidance. Patients reported significantly less anxiety in relationships with a key employee compared to general relationships and relationships with parents. Lower levels of avoidance were reported for relationships with parents. This suggests that in PD the capacity to modify ways of creating relationships with others remains.

The same authors showed in a group of 96 patients with PD the relationship between severity of insecure attachment dimensions and interpersonal difficulties assessed on the basis of psychiatric staff observations: anxiety was associated with excessively demanding behaviors, and avoidance with interpersonal hostility. Greater attachment difficulties in peer relationships, higher levels of preoccupation and discomfort associated with intimacy, and greater need for approval have been demonstrated by Couture et al. [29] in 96 patients with a first episode of PD compared to 66 healthy people.

Picken et al. [30] in a study of 110 patients with PD and substance abuse showed that higher levels of attachment anxiety were associated with a greater total number of reported traumatic interpersonal events, as well as with a greater severity of post-traumatic symptoms. Higher levels of avoidance attachment were associated with reporting fewer traumatic events.

Metacognitive skills

Pos et al. [31] evaluated the relationship between insecure attachment styles and theory of mind in 111 patients diagnosed with schizophrenia spectrum disorders, 106 healthy people from their siblings, and 63 healthy people not related to patients (control group). Patients had significantly higher scores on both anxiety and avoidant attachment and scored worse on the cognitive and affective dimensions of the theory of mind compared to siblings and the control group. Greater anxiety was associated with greater irregularities in the cognitive aspect of the theory of mind. Avoidance was significantly associated with both the cognitive and affective dimensions of the theory of mind, with better functioning in this sphere reported in patients with low or high levels of attachment avoidance compared to medium levels.

MacBeth et al. [32] in a group of 34 people with a first episode of PD showed significantly lower results in terms of reflexive functioning among subjects with dismissive attachment compared to those with both secure and preoccupied attachment.

The study of Korver-Nieberg et al. [33] in a group of 32 adolescents with early PD and 78 healthy people, did not show significant differences in the ability to adopt a visual perspective – the cognitive dimension of the theory of mind shaped around 2 years of age, or significant relationships between this ability and attachment. This means that mind deficits documented in PD develop later, more as a result of illness than in relation to attachment relationships or relate to higher dimensions of the theory of mind.

Emotional regulation

Owens et al. [34] showed in 49 patients with PD that attachment avoidance and anxiety were significantly associated with greater difficulties in regulating emotions. Especially avoidance was associated with non-acceptance of emotional reactions and a lack of emotional awareness and emotional understanding. Anxiety, but not avoidance, was a significant predictor of emotional regulation. Darrell-Berry et al. [35] showed in a group of 174 psychotic subjects and 120 healthy subjects that avoidance, but not anxiety, was significantly associated with anger, and this relationship was partly mediated by paranoia. The study of Ascone et al. [36] on 60 patients with PD and 40 healthy people confirmed the assumption that in the relationship between attachment anxiety and paranoia mediates the use of strategies that strengthen emotions (self-blame, rumination and catastrophizing). However, the role of blaming others in the relationship between avoidance and paranoia has not been confirmed.

Attachment and characteristics of psychotic symptoms

Insecure attachment can increase the susceptibility to individual symptoms (especially in relation to difficulties in coping with stressful situations) or have a negative effect on the course of PD when symptoms already occur [37]. Dismissive and fearful styles can be associated with a tendency to shape delusional beliefs. However, the differences between them in the perception of the self (positive in a dismissive style and negative in a fearful style) can translate into different roles attributed to oneself in the system of paranoid beliefs, i.e., as a victim or guilty person [2, 37, 38]. In the case of auditory hallucinations, the attitude of patients towards them, as well as the level of distress associated with them can be shaped by operational models representing previous interpersonal experiences [2, 37]. According to Berry et al. [26], people with anxiety attachment will be willing to consider hallucinations as powerful and changeable, friendly and hostile, and to respond to them in a dependent manner. On the other hand, people with avoidant attachment will rather consider voices as hostile and try to suppress or oppose them. It is also assumed that attachment avoidance may promote susceptibility to negative symptoms, especially withdrawal, apathy and anhedonia [2, 25, 37].

Gumley et al. [11] assessed as low to moderate the relationship between insecure attachment and greater severity of positive and negative symptoms, as well as greater

severity of depressive symptoms and worse quality of life. A meta-analysis of Carr et al. [9] showed the existence of small but significant relationships between the severity of positive symptoms and anxiety and avoidance attachment in both clinical and non-clinical groups. No relationship was found between negative symptoms and attachment in clinical groups.

According to Berry et al. [37], it is possible that the characteristics of attachment anxiety and avoidance may be intensified during psychotic episodes. In a prospective study of people with PD they distinguished two subgroups: 33 patients in a stable mental state and 21 assessed initially during acute PD, which were then evaluated over six months. Avoidant style was associated with positive and negative symptoms. The relationship between avoidance and paranoia was independent of the severity of the disease. In another prospective study, Gumley et al. [11] assessed the relationship between attachment and severity of symptoms in 54 people with a first episode of PD within 12 months. Patients with preoccupied attachment showed a greater intensity of positive symptoms compared to patients with secure attachment both at the beginning of treatment and after six months.

Different relationships have been reported between different types of insecure attachment and positive symptoms. In a study by Ponizovsky et al. [39] out of 100 outpatient schizophrenic patients, preoccupied style was associated with higher delusional and suspicious/persecuted results, while the fearful style was associated with higher hallucinatory behavior. The study of Strand et al. [40] in a group of 47 outpatient patients with a diagnosis of PD showed significant positive relationships between the preoccupied style and the severity of symptoms, as well as the results in Symptom Checklist (SCL-90-R) in the field of depression, anxiety, interpersonal sensitivity, paranoia and psychoticism. Wickham et al. [41] found a strong association between insecure attachment and paranoid beliefs in a group of 176 people diagnosed with psychosis compared to 113 healthy people. Insecure attachment was, however, not associated with hallucinations in any of the groups. This relationship was partly captured in the study of Berry et al. [42]: in a group of 73 patients with PD, small but significant positive associations were shown between attachment anxiety (but not avoidance) and the intensity of hallucinatory voices and related distress.

The differences in the relationship between individual dimensions of attachment and psychotic symptoms were carefully documented by Korver-Nieberg et al. [43] among 500 patients diagnosed with PD from three countries. Analyzing the results from a categorical perspective, it was found that patients with secure attachment had the lowest levels of psychopathology in the Positive and Negative Syndrome Scale (PANSS). Compared to them, subjects with any type of insecure attachment had significantly higher overall scores and scores on positive, but not negative syndromes. Higher scores on hallucinatory behavior were found in patients with both fearful and dismissing attachment styles. Attachment anxiety allowed for the prediction of positive and affective symptoms. Both dimensions were connected with the intensity of halluci-

nations and persecutory delusions. There were no significant attachment relationships with negative symptoms in either categorical or dimensional terms.

An important factor that can help to understand the relationship between insecure attachment and positive symptoms is the experience of trauma in the past. Pearce et al. [44] investigated the mediating role of attachment and dissociation in the relationships between childhood trauma and two types of psychotic symptoms: paranoia and auditory hallucinations in a group of 112 people reporting a diagnosis of PD or experiencing psychotic symptoms requiring specialist care. Fearful attachment and dissociation significantly mediated the relationship between trauma and paranoia. There was no relationship between attachment and hallucinations. The results of this study should be interpreted with caution due to the non-restrictive method of recruiting the study group. Pilton et al. [45] investigated the role of insecure attachment in the relationship between trauma and hallucinatory voices in 55 people diagnosed with PD who report auditory hallucinations. The anxiety dimension of attachment turned out to be associated with hallucinatory voices, their severity, and distress related to this symptom. However, no associations were found for the avoidance dimension. Attachment anxiety has been shown to mediate the relationship between childhood sexual and psychological violence and physical neglect, and the severity of voices and related distress.

In the largest study to date, Bucci et al. [46] analyzed the results of 588 people with PD, distinguishing four classes: secure, anxious, avoidant and disorganized attachment. Respondents from the avoidance and disorganized groups reported significantly higher average delusional results than respondents from the secure group. In the disorganized group, significantly higher hallucination rates were noted compared to the group with secure and anxious attachment, and higher scores on physical and sexual violence compared to all other classes. This finding indirectly indicates the potential relationship of disorganized attachment with psychotic symptoms and confirms the assumptions about linking this pattern with past trauma experiences.

Attachment and PD treatment

There are reports that insecure attachment in people suffering from PD has a negative effect on their treatment and recovery [11, 37]. Ponizovsky et al. [47] showed in a group of 30 men with schizophrenia that avoidant and anxiety attachment were associated with significantly earlier onset of the disease. Avoidant attachment has also been associated with longer psychiatric hospitalizations. A prospective study by Gumley et al. [48] showed in a group of 54 patients with a first episode of PD that secure attachment was one of the factors predicting remission after 6 and 12 months in terms of negative, but not positive, symptoms.

It is recognized that among people with PD, insecure attachment is associated with less involvement in treatment, weaker compliance, less benefit from treatment, more frequent discontinuation, as well as a lower level of disclosure of information

about themselves and greater rejection of treatment providers [3, 11]. The potential role of attachment in the treatment of PD can be explained in relation to recovery styles [3]. The link between insecure attachment and maladaptive healing styles that tend to avoid recognition of psychotic experiences and minimize their significance is indicated by studies by Tait et al. [49] and Mulligan and Lavender [50] in groups of 50 and 73 patients with PD, respectively.

Berry et al. [37] noted significant negative correlations between attachment avoidance (but not anxiety) and therapeutic alliance assessed by both patients and staff, which remained under control of symptom severity. Kvrgic et al. [51] did not capture any relationships between attachment and alliance in a group of 156 outpatient patients with a diagnosis of schizophrenia or schizoaffective disorder.

In the study of Owens et al. [34], no links were found between therapeutic alliance assessments made by patients and staff, although poor therapeutic alliance and insecure attachment were associated with greater patient difficulty in regulating emotions. Picken et al. [30] did not show that the alliance assessed by patients and staff was significantly linked to the history of traumatic experiences that are important for forming attachment patterns. Also, the study of Berry et al. [52] in a group of 52 patients with the recent onset of PD who used cannabinols and their therapists, found differences in alliance assessment. Higher levels of attachment anxiety in patients were significantly associated with a better alliance assessed by therapists, especially regarding consent for therapeutic tasks and perception of therapeutic bond. No significant relationship was found between avoidance and alliance assessed by therapists and avoidance and anxiety and alliance evaluated by patients. It also failed to demonstrate the possibility of predicting alliance evaluation based on interactions between patient attachment and the type of treatment used.

Clinical implications

Interventions aimed at strengthening attachment bonds and modification of relational patterns in children and adolescents at high risk of PD can be regarded as potential protective factors [10, 24]. In the therapy of people who already develop it, an important role may be played by increasing their attachment safety both in the therapeutic relationship and in the sphere of social relations. The therapeutic relationship can be treated as an attachment relationship, and changes within it can, by changing operational models, modify the relational functioning of patients in a wider dimension [3, 34].

Secure attachment can increase the chances of successful adaptation to the disease and positively affect the effects of treatment. The prevalence of insecure attachment styles among people diagnosed with PD is consistent with the incidence of problems in this group in establishing and maintaining a therapeutic relationship, experiencing therapeutic interactions as intrusive or rejecting, and discontinuing treatment at its critical times [9]. Owens et al. [34] emphasize the need to differentiate therapeutic

interactions depending on patient attachment styles. Adapting to them requires control of the distance in the therapeutic relationship: its gradual increase in patients with anxiety attachment and reduction in those with avoidant attachment.

Shaping a secure attachment in a therapeutic relationship requires creating opportunities for patients to express negative emotions as well as supporting their autonomy and exploratory activities [11]. Implementation of strategies aimed at improving individual spheres of psychosocial functioning related to attachment, i.e., creating and maintaining social relationships, metacognitive skills and regulation of emotions may also be important [3, 9, 24, 53]. A perspective that requires further research is testing biological interventions (e.g., oxytocin administration) with a potential effect on increasing the patient's attachment safety [43, see 54].

Summary

Literature analysis indicates that insecure attachment can be a risk factor for the development of PD, worsening of psychotic symptoms, reduction in the quality of life of patients and difficulties in their treatment. In contrast, a secure attachment pattern is recognized as an immunity factor that promotes better engagement in treatment and recovery. Assuming multifactorial conditioning of psychoses, attachment should, however, be considered as one of many elements important for the development, as well as the course and treatment of the disease [2-4, 10, 11, 37].

References

1. Bowlby J. *Attachment and loss*, vol. 1: *Attachment.* New York: Basic Books; 1982.
2. Berry K, Barrowclough C, Wearden A. *A review of the role of adult attachment style in psychosis: Unexplored issues and questions for further research.* Clin. Psychol. Rev. 2007; 27(4): 458–475.
3. Korver-Nieberg N, Berry K, Meijer C, Haan de L. *Adult attachment and psychotic phenomenology in clinical and non-clinical samples: A systematic review.* Psychol. Psychother. 2014; 87(2): 127–154. Doi: 10.1111/papt.12010
4. Mathews S, Onwumere J, Bissoli S, Ruggeri M, Kuipers E, Valmaggia L. *Measuring attachment and parental bonding in psychosis and its clinical implications.* Epidemiol. Psychiatr. Sci. 2016; 25(2): 142–149. Doi: 10.1017/S2045796014000730
5. Goodwin I. *The relevance of attachment theory to the philosophy, organization, and practice of adult mental health care.* Clin. Psychol. Rev. 2003; 23(1): 35–56.
6. Ainsworth MDS, Blehar MC, Waters E, Wall SN. *Patterns of attachment: Psychological study of the strange situation.* New York: Psychology Press; 2015.
7. Main M, Solomon J. *Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation.* In: Greenberg MT, Cicchetti D, Cummings EM, editors. *Attachment in the preschool years: Theory, research, and intervention.* Chicago: University of Chicago Press; 1990. pp. 121–160.

8. Bartholomew K. *Avoidance of intimacy: An attachment perspective.* J. Soc. Pers. Relat. 1990; 7(2): 147–178. Doi: 10.1177/0265407590072001
9. Carr SC, Hardy A, Fornells-Ambrojo M. *Relationship between attachment style and symptom severity across the psychosis spectrum: A meta-analysis.* Clin. Psychol. Rev. 2018; 59: 145–158. Doi: 10.1016/j.cpr.2017.12.001
10. Harder S. *Attachment in schizophrenia – Implications for research, prevention, and treatment.* Schizophr. Bull. 2014; 40(6): 1189–1193. Doi: 10.1093/schbul/sbu133
11. Gumley AI, Taylor HE, Schwannauer M, MacBeth A. *A systematic review of attachment and psychosis: Measurement, construct validity and outcomes.* Acta Psychiatr. Scand. 2014; 129(4): 257–274. Doi: 10.1111/acps.12172
12. Main M, Kaplan N, Cassidy J. *Security in infancy, childhood, and adulthood: A move to the level of representation.* Monogr. Soc. Res. Child Dev. 1985; 50(1–2): 66–104. Doi: 10.2307/3333827
13. Hazan C, Shaver P. *Romantic love conceptualized as an attachment process.* J. Pers. Soc. Psychol. 1987; 52(3): 511–524. Doi: 10.1037/0022-3514.52.3.511
14. Berry K, Band R, Corcoran R, Barrowclough C, Wearden A. *Attachment styles, earlier interpersonal relationships and schizotypy in a non-clinical sample.* Psychol. Psychother. 2007; 80(4): 563–576.
15. Plopa M. *Kwestionariusz Stylów Przywiązania (KSP). Podręcznik.* Warsaw: Vizja Press & IT; 2008.
16. Feeney JA, Noller P, Hanrahan M. *Assessing adult attachment.* In: Sperling MB, Berman WH, editors. *Attachment in adults: Clinical and developmental perspectives.* New York: Guilford Press; 1994. pp. 128–152.
17. Bartholomew K, Horowitz LM. *Attachment styles among young adults. A test of a four-category model.* J. Pers. Soc. Psychol. 1991; 61(2): 226–244.
18. Goodwin I, Holmes G, Cochrane R, Mason O. *The ability of adult mental health services to meet clients' attachment needs: The development and implementation of the Service Attachment Questionnaire.* Psychol. Psychother. 2003; 76(Pt 2): 145–161.
19. Collins NL. *Working models of attachment: Implications for explanation, emotion and behaviour.* J. Pers. Soc. Psychol. 1996; 71(4): 810–832.
20. Brennan KA, Clark CL, Shaver PR. *Self-report measurement of adult romantic attachment: An integrative overview.* In: Simpson JA, Rholes WS, editors. *Attachment theory and close relationships.* New York: Guilford Press; 1998. pp. 46–76.
21. Varese F, Smeets F, Drukker M, Lieverse R, Lataster T, Viechtbauer W et al. *Childhood adversities increase the risk of psychosis: A meta-analysis of patient-control, prospective-and cross-sectional cohort studies.* Schizophr. Bull. 2012; 38(4): 661–671. Doi: 10.1093/schbul/sbs050
22. Matheson SL, Shepherd AM, Pinchbeck RM, Laurens KR, Carr VJ. *Childhood adversity in schizophrenia: A systematic meta-analysis.* Psychol. Med. 2013; 43(2): 225–238. Doi: 10.1017/S0033291712000785
23. Debbané M, Salaminios G, Luyten P, Badoud D, Armando M, Solida Tozzi A et al. *Attachment, neurobiology, and mentalizing along the psychosis continuum.* Front. Hum. Neurosci. 2016; 10: 406. Doi: 10.3389/fnhum.2016.00406
24. Rajkumar RP. *Childhood attachment and schizophrenia: The "attachment-developmental-cognitive" (ADC) hypothesis.* Med. Hypotheses 2014; 83(3): 276–281. Doi: 10.1016/j.mehy.2014.05.017

25. Liotti G, Gumley A. *An attachment perspective on schizophrenia: The role of disorganized attachment, dissociation and mentalization.* In: Moskowitz A, Schäfer I, Dorahy MJ, editors. *Psychosis, trauma and dissociation: Emerging perspectives on severe psychopathology.* New York: Wiley-Blackwell; 2008. pp. 117–133. Doi: 10.1002/9780470699652
26. Berry K, Varese F, Bucci S. *Cognitive attachment model of voices: Evidence base and future implications.* Front. Psychiatry 2017; 8: 111. Doi: 10.3389/fpsyt.2017.00111
27. Brent BK, Fonagy P. *A mentalization-based treatment approach to disturbances of social understanding in schizophrenia.* In: Lysaker PH, Dimaggio G, Brüne M, editors. *Social cognition and metacognition in schizophrenia: Psychopathology and treatment approaches.* Amsterdam: Elsevier Academic Press; 2014. pp. 245–259.
28. Berry K, Wearden A, Barrowclough C. *Adult attachment styles and psychosis: An investigation of associations between general attachment styles and attachment relationships with specific others.* Soc. Psychiatry Psychiatr. Epidemiol. 2007; 42(12): 972–976. Doi: 10.1007/s00127-007-0261-5
29. Couture S, Lecomte T, Leclerc C. *Personality characteristics and attachment in first episode psychosis: Impact on social functioning.* J. Nerv. Ment. Dis. 2007; 195(8): 631–639. Doi: 10.1097/NMD.0b013e31811f4021
30. Picken AL, Berry K, Tarrier N, Barrowclough C. *Traumatic events, posttraumatic stress disorder, attachment style, and working alliance in a sample of people with psychosis.* J. Nerv. Ment. Dis. 2010; 198(10): 775–778. Doi: 10.1097/NMD.0b013e3181f4b163
31. Pos K, Bartels-Velthuis AA, Simons CJ, Korver-Nieberg N, Meijer CJ, de Haan L; GROUP. *Theory of Mind and attachment styles in people with psychotic disorders, their siblings, and controls.* Aust. N. Z. J. Psychiatry 2015; 49(2): 171–180. Doi: 10.1177/0004867414546386
32. MacBeth A, Gumley A, Schwannauer M, Fisher R. *Attachment states of mind, mentalization, and their correlates in a first-episode psychosis sample.* Psychol. Psychother. 2011; 84(1): 42–57. Doi: 10.1348/147608310X530246
33. Korver-Nieberg N, Fett AK, Meijer CJ, Koeter MW, Shergill SS, Haan de L et al. *Theory of mind, insecure attachment and paranoia in adolescents with early psychosis and healthy controls.* Aust. N. Z. J. Psychiatry 2013; 47(8): 737–745. Doi: 10.1177/0004867413484370
34. Owens KA, Haddock G, Berry K. *The role of the therapeutic alliance in the regulation of emotion in psychosis: An attachment perspective.* Clin. Psychol. Psychother. 2013; 20(6): 523–530. Doi: 10.1002/cpp.1793
35. Darrell-Berry H, Bucci S, Palmier-Claus J, Emsley R, Drake R, Berry K. *Predictors and mediators of trait anger across the psychosis continuum: The role of attachment style, paranoia and social cognition.* Psychiatry Res. 2017; 249: 132–138. Doi: 10.1016/j.psychres.2017.01.007
36. Ascone L, Schlier B, Sundag J, Lincoln TM. *Pathways from insecure attachment dimensions to paranoia: The mediating role of hyperactivating emotion regulation versus blaming others.* Psychol. Psychother. 2020; 93(1): 72–87. Doi: 10.1111/papt.12208
37. Berry K, Barrowclough C, Wearden A. *Attachment theory: A framework for understanding symptoms and interpersonal relationships in psychosis.* Behav. Res. Ther. 2008; 46(12): 1275–1282. Doi: 10.1016/j.brat.2008.08.009
38. Melo SS, Taylor JL, Bentall RP. *'Poor me' versus 'bad me' paranoia and the instability of persecutory ideation.* Psychol. Psychother. 2006; 79(2): 271–287.

39. Ponizovsky AM, Vitenberg E, Baumgarten-Katz I, Grinshpoon A. *Attachment styles and affect regulation among outpatients with schizophrenia: Relationships to symptomatology and emotional distress.* Psychol. Psychother. 2013; 86(2): 164–182. Doi: 10.1111/j.2044 – -8341.2011.02054.x
40. Strand J, Goulding A, Tidefors I. *Attachment styles and symptoms in individuals with psychosis.* Nord. J. Psychiatry 2015; 69(1): 67–72. Doi: 10.3109/08039488.2014.929740
41. Wickham S, Sitko K, Bentall RP. *Insecure attachment is associated with paranoia but not hallucinations in psychotic patients: The mediating role of negative self-esteem.* Psychol. Med. 2015; 45(7): 1495–507. Doi: 10.1017/S0033291714002633
42. Berry K, Wearden A, Barrowclough C, Oakland L, Bradley J. *An investigation of adult attachment and the nature of relationships with voices.* Br. J. Clin. Psychol. 2012; 51(3): 280–291. Doi: 10.1111/j.2044-8260.2011.02027.x
43. Korver-Nieberg N, Berry K, Meijer C, de Haan L, Ponizovsky AM. *Associations between attachment and psychopathology dimensions in a large sample of patients with psychosis.* Psychiatry Res. 2015; 228(1): 83–88. Doi: 10.1016/j.psychres.2015.04.018
44. Pearce J, Simpson J, Berry K, Bucci S, Moskowitz A, Varese F. *Attachment and dissociation as mediators of the link between childhood trauma and psychotic experiences.* Clin. Psychol. Psychother. 2017; 24(6): 1304–1312. Doi: 10.1002/cpp.2100
45. Pilton M, Bucci S, McManus J, Hayward M, Emsley R, Berry K. *Does insecure attachment mediate the relationship between trauma and voice-hearing in psychosis?* Psychiatry Res. 2016; 246: 776–782. Doi: 10.1016/j.psychres.2016.10.050
46. Bucci S, Emsley R, Berry K. *Attachment in psychosis: A latent profile analysis of attachment styles and association with symptoms in a large psychosis cohort.* Psychiatry Res. 2017; 247: 243–249. Doi: 10.1016/j.psychres.2016.11.036
47. Ponizovsky AM, Nechamkin Y, Rosca P. *Attachment patterns are associated with symptomatology and course of schizophrenia in male inpatients.* Am. J. Orthopsychiatry 2007; 77(2): 324–331.
48. Gumley AI, Schwannauer M, Macbeth A, Fisher R, Clark S, Rattrie L et al. *Insight, duration of untreated psychosis and attachment in first-episode psychosis: Prospective study of psychiatric recovery over 12-month follow-up.* Br. J. Psychiatry 2014; 205(1): 60–67. Doi: 10.1192/bjp.bp.113.126722
49. Tait L, Birchwood M, Trower P. *Adapting to the challenge of psychosis: Personal resilience and the use of sealing-over (avoidant) coping strategies.* Br. J. Psychiatry 2004; 185: 410–415.
50. Mulligan A, Lavender T. *An investigation into the relationship between attachment, gender and recovery from psychosis in a stable community-based sample.* Clin. Psychol. Psychother. 2010; 17(4): 269–284.
51. Kvrgic S, Cavelti M, Beck EM, Rüsch N, Vauth R. *Therapeutic alliance in schizophrenia: the role of recovery orientation, self-stigma, and insight.* Psychiatry Res. 2013; 209(1): 15–20. Doi: 10.1016/j.psychres.2012.10.009
52. Berry K, Palmer T, Gregg L, Barrowclough C, Lobban F. *Attachment and therapeutic alliance in psychological therapy for people with recent onset psychosis who use cannabis.* Clin. Psychol. Psychother. 2018; 25(3): 440–445. Doi: 10.1002/cpp.2178
53. Harder S, Folke S. *Affect regulation and metacognition in psychotherapy of psychosis: An integrative approach.* J. Psychother. Integr. 2012; 22(4): 330–343.

54. Holka-Pokorska J, Jarema M. *Oxytocin model of formation of psychotic symptoms and its implications for research on oxytocinergic pathway in schizophrenia.* Psychiatr. Pol. 2014; 48(1): 19–33.

Address: Michał Lew-Starowicz
Department of Psychiatry
Centre of Postgraduate Medical Education
Bielański Hospital
Independent Public Health Care Facility
01-809 Warszawa, Cegłowska Street 80
e-mail: michal.lew-starowicz@cmkp.edu.pl