

# A Review of Psychological Approaches for Treating Schizophrenia

*A Focus on Integrated Body Psychotherapy and Japanese Body Psychotherapy (Dohsa-hou)*

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## ABSTRACT

Schizophrenia is a psychiatric disorder requiring many years of treatment, and few patients fully recover. In Japan, few studies have explored psychological approaches for treating schizophrenia; supportive psychotherapy has long been utilized, but it requires long-term intervention. In addition, grading evidence suggests that its efficacy is poor, and novel treatments for schizophrenia are needed. The purpose of this review was to assess the effects of psychological approaches used for treating schizophrenia, and introduce Dohsa-hou to an international audience. The literature showed that social skills training and psychological education have limited impact on improving patients' skills, and discussions on the efficacy of cognitive behavioral therapy have continued. In contrast, evidence supports the use of integrated body psychotherapy (integrated BPT) in reducing negative symptoms. Moreover, the evidence suggests that integrated BPT and Dohsa-hou are applicable in a variety of cases, and are effective even as brief interventions, owing to the utilization of nonverbal communication and a focus on the subconscious mind. Some issues identified with the published studies assessing these treatment approaches included small sample sizes, researcher and methodological biases, and unexplained mechanisms. Further studies are needed to investigate mechanisms and the effects of Dohsa-hou in treating schizophrenia.

**Keywords:** schizophrenia, treatment effect, psychological approach, integrated body psychotherapy, Dohsa-hou

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*Dohsa-hou focused on ...  
the subjective experiences  
that occur when people try to control  
their body movements.*

Schizophrenia is a severe mental disorder, affecting approximately 1 out of 100 people, and only about 15% of patients recover their premorbid functionality. Owing to advances in pharmacological treatment with atypical antipsychotics, positive symptoms, such as hallucinations and delusions, can be treated more effectively; however, no panacea that can also treat all the negative symptoms, such as social withdrawal, poor motivation, and flat affect, has been developed to date.

In Japan, long-term hospitalization of patients with mental disorders is problematic. For psychiatric treatment, the average length of the hospital stay is 269 days (Ministry of Health, Labor, and Welfare, 2016), which is much longer than hospitalization times in other countries. Thus, the Ministry of Health, Labor, and Welfare has set new targets to increase the likelihood that psychiatric patients can be discharged from the hospital and transition to outpatient treatment within one year. To reduce the number of prolonged hospital stays, the Ministry carried out the "Survey of Severe Chronic Hospitalized Patients" (Working Group on the Future of Mental Health Care and Welfare, 2016), which showed that schizophrenia accounts for about 80% of all chronically hospitalized patients with severe symptoms. In addition, 60% of hospitalized patients remain in a

hospital for over five years, while approximately 60% of psychiatric patients cannot be discharged, due to the fact that their symptoms are extremely serious or unstable. Therefore, reducing symptoms is a very important issue for managing these patients. However, only about 5% of mental health institutions reported that psychotherapy for schizophrenia has been fully available and provided without limitations, less than 25% reported that psychotherapy has been minimally practiced, and 40% reported that only limited treatment has been provided due to some combination of a lack of time to properly treat all patients, high medical costs, and lack of staff competence. Accordingly, it is necessary to financially support therapists and develop appropriate training systems for them (Fujisawa, 2007). Moreover, it is important to enhance the use of clinical psychologists in the mental health field, and increase the use of psychotherapy for treating schizophrenia.

In Japanese clinical psychology practice, supportive psychotherapy and psychoanalysis have been used to treat schizophrenia, but these methods primarily focus on listening to the patient and emphasizing psychological stability rather than actively reducing symptoms; as such, schizophrenia treatment often takes an excessive amount of time. Moreover, only ten intervention studies addressing schizophrenia have been published in the *Journal of Japanese Clinical Psychotherapy* in the past 22 years (as of January 5, 2020). In studies that explicitly stated the treatment periods, interventions such as supportive psychotherapy, psychoanalysis, and psychoanalysis, combined with analytical psychology, required 8 to 15 years to complete (Kang, 2010; Okamura, 2009; Shirai, 2018; Takahashi, 2003; Yamada, 2000). These approaches are clearly not cost-effective.

In Japan, few studies have examined the efficacy of psychotherapy for schizophrenia, and most of these were performed by the Health Labor Science Research Group. Specifically, the group explored the effectiveness of cognitive behavioral therapy (CBT) and music therapy (Harada, 2007; Murai, 2007), finding minimal effects with CBT, and no effects with music therapy. However, these studies were quasi-experiments that included only a small number of subjects, focusing solely on these specific therapies; for CBT, the subjects were only 15 patients, and no information was provided about patients' hospitalization; for music therapy, the subjects were only 45 hospitalized patients. No randomized controlled trials (RCT) of CBT or music therapy in treating schizophrenia have been conducted in Japan.

However, in Europe and the United States of America, body psychotherapy (BPT) has been shown to be useful by previous studies. According to the definitions provided by the United States Association for Body Psychotherapy (2017) and Röhrlich et al. (2014), BPT is a nonverbal psy-

chotherapy mediated by the body. This therapeutic approach aims to integrate the body and mind, thereby fostering psychological transformation to relieve symptoms. In BPT, therapists address the physical reality and experiences of the subjective body, using physical techniques to strengthen dialogue with clients. BPT includes Core Energetics, Rubenfeld Synergy Method®, Gestalt, Hakomi, Somatic Experiencing®, Integrative Somatics, yoga, dance movement therapy, Reichian therapy, Bodydynamics, Bioenergetics, Focusing, and psychodrama. The United States Association for Body Psychotherapy (2017) has stated that body-oriented or body-centered psychotherapy aims to affirm that body, mind, and spirit are inseparable, requiring a more holistic treatment approach.

Recently, integrated BPT, which involves the integration of dance movement therapy, Reichian therapy, and sensory awareness has provided confirmatory evidence for treatment efficacy in patients with schizophrenia in Europe (Martin et al., 2016; Röhrlich et al., 2009, 2011; Priebe et al., 2016; Röhrlich & Priebe, 2006). In Japan, several body-oriented psychotherapies are also used; for example, dance therapy, psychodrama, Focusing, and Dohsa-hou. However, except for Dohsa-hou, these psychotherapies have not been extensively used for schizophrenia treatment. Dohsa-hou was established by Gosaku Naruse, Ph.D. (1924–2019), and has shown to effectively ameliorate both the positive and negative symptoms of schizophrenia (Kamikura & Shimizu, 2013, 2016; Tsuru, 1992). “Dohsa”, in Japanese, refers to a holistic process of motor movement, including the physiological and psychological processing associated with motor activity of the body (Tsuru, 2002).

In this review, we aimed to summarize the main psychological approaches applied to treat patients with schizophrenia, both domestically and abroad, and to describe their effects and clinical outcomes. In particular, this review focused on the use of integrated BPT in Europe and Japanese BPT (Dohsa-hou) in Japan for treating schizophrenia, both of which have been shown to be clinically effective in previous studies. We compared the clinical efficacies of these approaches and outlined future perspectives for their use in schizophrenia management. In addition, an aim of this review was to introduce Dohsa-hou to an international audience, who may be unfamiliar with its use.

## Current Status and Issues Surrounding Psychological Approaches for Schizophrenia Treatment

The American Psychiatric Association (APA) and the UK National Institute for Health and Clinical Excellence (NICE) have developed guidelines regarding psychological approaches for schizophrenia treatment based on large-

scale studies of their efficacy (APA, 2004, 2009 Guideline Watch version; NICE, 2014 UPDATE version). The current review focused on the therapeutic effects of these approaches, their application ranges, and issues based on these treatment guidelines. In addition, comparisons were made between the current state of clinical use of these approaches, both overseas and in Japan.

To explore psychological interventions for treating schizophrenia in Japan, the Japanese search engines “CiNii Articles” and “CiNii Dissertations” in Citation Information by National Institute of Informatics were used on January 5, 2020. The initial search used the Japanese terms “Seishin bunretsu-byou” and “Tougou shittyou-syuu,” both of which translate as “schizophrenia” in English. The second search included the following terms: “social skills training (SST),” “psychoeducation,” “cognitive behavioral therapy,” “Dohsa-hou,” “psychological rehabilitation,” “Dohsa therapy,” and “therapy;” these are translations of Japanese search terms.

### 1. Approaches Targeting Daily Life Difficulties: SST and Psychoeducation

Although SST is useful for developing social and autonomous skills in patients with schizophrenia (APA, 2009), its effects on relapse prevention and in reducing symptoms have not been fully explored (Bellack, 2004). The APA (2009) concluded that SST could not be recommended for the treatment of schizophrenia, and NICE (2014) does not recommend the routine use of SST in people with psychosis or schizophrenia; therefore, SST is not routinely used in the UK. Recently, however, SST has been used to target negative symptoms of schizophrenia, and studies have increasingly used the reduction in these symptoms as a primary outcome measure. Turner et al. (2018) performed a meta-analysis of SST for psychosis of 27 RCTs, including 1,473 participants. They found that SST was superior to treatment as usual (TAU), active controls for negative symptoms, concluding that the magnitude of effect for reducing negative symptoms by SST was similar to those commonly reported for the reduction of positive symptoms by CBT.

In Japan, SST has been conducted for patients with schizophrenia in many hospitals as the second most-used treatment method after psychotherapy. Nevertheless, SST's usage rate remains low among patients chronically afflicted with severe schizophrenia at only 11% (Working Group on the Future of Mental Health Care and Welfare, 2016). Additionally, only nine studies on SST for patients with schizophrenia have been published in Japan to date, because therapists utilize SST only as part of daily clinical practice and rarely conduct studies on SST. Although psychoeducation increases social functionality, the APA (2009) and NICE (2014) do not recommend its use for schizophrenia because it does not seem to reduce symptoms. On the other hand, psychoeducation is effective for

preventing relapse. In Japan, in contrast to SST, psychoeducation has been studied very actively as a psychological approach for treating schizophrenia, with 42 papers published to date. In practice, however, its usage in patients chronically afflicted with severe schizophrenia has remained at 11% among all practices (Working Group on the Future of Mental Health Care and Welfare, 2016).

SST and psychoeducation are components of rehabilitation; their main goal is to maintain patients in a stable mental state. Researchers and clinical psychologists recognize that these approaches aim to improve social skills and cognitive functions, promote compliance with medication regimens, and prevent relapse and re-hospitalization, rather than reducing symptoms.

### 2. Cognition and Behavior-Oriented Psychotherapy: CBT

The APA (2004) indicated that CBT reduced the severity of positive symptoms and could lessen treatment-resistant hallucinations and delusions in chronically ill outpatients after a few months of sessions (Rector & Beck, 2001). However, the APA (2004) also suggested that CBT had limited efficacy in reducing negative symptoms, and patients with chronic, severe negative symptoms who were provided CBT were likely to refuse or drop out of CBT. Thus, the APA indicated that weekly CBT counseling would be a heavy burden for patients. In the more recent guidelines, both the APA (2009) and NICE (2014) recommend CBT for treating the positive and negative symptoms of schizophrenia; for instance, NICE (2014) makes the recommendation to “offer CBT to all people with psychosis or schizophrenia.” These suggestions about negative symptoms were based on the findings of a small-scale report (Rector et al., 2003), and the possibility of natural recovery unrelated to treatment could not be excluded, as the study reported no improvement in negative symptoms in the immediate post-intervention period. Additionally, NICE (2014) states that “despite these positive effects for hallucination-specific measures, the evidence for there being any effect on delusions was inconsistent,” and the efficacy of CBT for positive symptoms is limited.

Older studies have claimed that CBT was effective in reducing positive symptoms; Zimmermann et al. (2005) conducted a meta-analysis of 14 studies, including a total of 1,484 participants, and found that CBT resulted in a significant reduction in positive symptoms (effect size of  $-0.37$ ), but the effect size was higher in those suffering from an acute psychotic episode than in those with a chronic condition (effect size of  $0.57$  vs.  $0.27$ ). More recently, however, researchers have begun to question the effect size of CBT in these populations. The Cochrane Collaboration (2012) stated that “trial-based evidence suggests no clear and convincing advantage for CBT over other – and sometimes much less sophisticated – therapies for people with schizophrenia,” and there were no

significant differences between CBT and other psychotherapies in preventing relapse and re-hospitalization, or in improving positive and negative symptoms, based on 20 RCTs on CBT (Jones et al., 2012). Furthermore, Jauhar et al. (2014) performed a meta-analysis to assess potential biases in studies reporting on the efficacy of CBT for treating schizophrenic symptoms, and concluded that CBT had small effects on both classes of symptoms ( $-0.25$  in 33 studies of positive symptoms and  $-0.13$  in 34 studies of negative symptoms). Moreover, Velthorst et al. (2014) performed a meta-analysis and meta-regression for evaluating the usefulness of CBT for reducing negative symptoms, and concluded that the beneficial effect of CBT on negative symptoms was not supported by recent studies. Hence, there was criticism that NICE had overestimated the role of CBT as a panacea (Taylor & Udayanga, 2015); as such, discussions on the efficacy of CBT for schizophrenia have continued.

Most recently, Bighelli et al. (2018) evaluated the efficacy of CBT for reducing positive symptoms in 53 randomized controlled trials of seven psychological interventions, including a total of 4,068 participants; this network meta-analysis showed that, based on 40 studies, CBT caused a greater reduction in positive symptoms compared with inactive controls, TAU, or supportive therapy. Further, the researchers concluded that CBT “seems to be effective on positive symptoms in moderately ill patients with schizophrenia, with effect sizes in the lower to medium range.” The researchers claimed that the earlier CBT studies had identifiable biases. Based on 36 RCTs of CBT, Cochrane (2018) further concluded that there were no significant differences between CBT and other psychotherapies in ameliorating positive and negative symptoms, improving social functioning, and enhancing patients’ quality of life (Jones et al., 2018). Jauhar, Laws, & McKenna (2019) stated that although NICE (2014) recommends CBT for treating schizophrenia, current evidence suggests it is ineffective in reducing negative symptoms, and does not prevent relapse. Therefore, the effect size of CBT for positive symptoms would be in the lower to medium range, and, to date, the efficacy of CBT in reducing negative symptoms has not been fully established. Accordingly, novel treatments for negative symptoms are required.

In Japan, CBT is not as popular for treating schizophrenia as it is for treating depression relative to all other treatment options; its usage rate in patients chronically afflicted with severe schizophrenia is only 0.9% (Working Group on the Future of Mental Health Care and Welfare, 2016). Only 7% in mental health institutions reported that the use of CBT for reducing symptoms of was efficacious for patients with schizophrenia (Working Group on the Future of Mental Health Care and Welfare, 2016). 22 studies in relation to CBT have been published in Japan, which is consistent with European trends in the use of psychotherapy; however, no large-scale study of the effectiveness of

CBT has been conducted to date in Japan.

### 3. Body-Oriented Psychotherapy: Integrated BPT and Dohsa-hou

#### A. Integrated BPT in Europe

Recently, BPT has been attracting attention as a useful psychological approach for treating the negative symptoms of schizophrenia, which are difficult to improve, even through pharmacotherapy. NICE (2014) stated that medical health professionals should “consider offering arts therapies which include art therapy or art psychotherapy, dance movement therapy, body psychotherapy, drama therapy and music therapy, particularly for the negative symptoms” from acute psychotic to residual phases, based on evidence from RCTs of the effects of BPT on negative symptoms (Duraiswamy et al., 2007; Röhricht & Priebe, 2006).

The academic database PsycINFO was searched for intervention studies using BPT for schizophrenia on January 5, 2020, with “schizophrenia” as the primary search term and “body psychotherapy,” “body therapy,” “body-oriented psychotherapy,” “body-oriented therapy,” and “somatic psychotherapy” as secondary terms. Five papers were extracted. Furthermore, by a manual search, four integrated BPT studies on schizophrenia were obtained. Seven papers were extracted in total after excluding two studies; one study was not an intervention study, and one study was ongoing (Table 1). Two papers (Priebe et al., 2016; Savill et al., 2017) shown in Table 2 analyzed the same participants, but focused on different viewpoints.

One paper focused on yoga (Duraiswamy et al., 2007), and six papers focused on integrated BPT (Martin et al., 2016; Röhricht et al., 2009, 2011; Priebe et al., 2016; Röhricht & Priebe, 2006; Savill et al., 2017). Among the RCT studies with follow-up surveys (four months after the intervention), there were two comparative studies: one on the effects of integrated BPT and supportive psychotherapy in 45 patients with schizophrenia (Röhricht & Priebe, 2006), and another on the effects of yoga and exercise in 41 patients with schizophrenia (Duraiswamy et al., 2007). These studies showed a significant reduction in negative symptoms by both integrated BPT and yoga, and the effects were maintained even four months after the interventions. Recently, a study comparing the effects of integrated BPT, as outlined in the manual (Röhricht, 2000; Röhricht & Priebe, 2006), and Pilates was conducted in a multi-center RCT for 275 patients with schizophrenia experiencing negative symptoms (Priebe et al., 2016; Savill et al., 2017). The results indicated that, compared with Pilates, integrated BPT resulted in a significantly greater reduction in negative symptoms in female patients (Savill et al., 2017).

In RCTs of integrated BPT, interventions are performed in groups, twice a week for 90 minutes, for 20 sessions in to-

TABLE 1 RESEARCHES OF THE EFFECTIVENESS OF INTEGRATED BODY PSYCHOTHERAPY

Author (Year)	Aims	Participants	Details of intervention	Term	Main findings
Röhricht & Priebe (2006)	Comparison of the effectiveness of BPT with Supportive counseling (SC) (RCT)	Out-patients suffering from schizophrenia $n=45$ (BPT $n=24$ , SC $n=21$ )	<ul style="list-style-type: none"> <li>For the BPT group, a dance therapist intervened by integrated BPT based on self-made treatment manual (by integration approach).</li> <li>For the SC group, trained 2 nurses intervened by Supportive counseling.</li> </ul>	twice a week (1-1.5 hour each), total of 20 sessions, for 10 weeks	<ul style="list-style-type: none"> <li>Compared with the SC group, the BPT group has significantly lowered their negative symptoms, affective blunting and motor retardation.</li> <li>After 4 months, these effects were hold in the BPT group.</li> <li>The drop-out rate in the BPT group was very fewer than the SC group (received intervention : BPT <math>n=22</math>, SC <math>n=14</math>).</li> </ul>
Duraiswamy et al. (2007)	Comparison of the effectiveness of Yoga Therapy (YT) with Physical Exercise Therapy (PT) (RCT)	Out- and in-patients suffering from schizophrenia $n=61$ (YT $n=31$ , PT $n=30$ )	<ul style="list-style-type: none"> <li>For the YT group, a trained Yoga therapist conducted YT (meditation was not included) based on handbook.</li> <li>For the PT group, a trained therapist conducted PT (walking, jogging etc.)</li> <li>A therapist in YT and PT was same person.</li> </ul>	5 days a week (1 hour each), total 15 sessions for 3 weeks	<ul style="list-style-type: none"> <li>Compared with the PT group, the YT group significantly improved their negative symptoms, social and occupational functionings and quality of life.</li> <li>After four months, the effect-sizes in the YT group were moderate to large; negative symptoms (<math>ES=0.78</math>), social and occupational functionings (<math>ES=0.48</math>).</li> <li>The total drop-out rate was 26% (received intervention: YT <math>n=21</math>, PT <math>n=20</math>).</li> </ul>
Röhricht et al. (2009)	Assessment of the effectiveness of BPT (Pilot RCT)	Out-patients and patients using community-based mental health services suffering from schizophrenia ( $n=24$ )	Therapists conducted manualised form of body psychotherapy (integrated BPT: predominantly Dance Movement Psychotherapy, Neo-Reichian body psychotherapy and sensory awareness.) Therapist's type was not mentioned.	twice a week (1.5 hour each), total 20 sessions for 10 weeks	<ul style="list-style-type: none"> <li>Negative symptoms and ego-disturbance were significantly lessened.</li> <li>No drop out.</li> <li>Even though ego-pathology is not reduced, negative symptoms may be reduced.</li> </ul>
Röhricht et al. (2011)	Assessment of the effectiveness of BPT (RCT)	Out-patients suffering from schizophrenia $n=18$	For three groups, an accredited dance movement therapist by Association for Dance Movement Psychotherapy UK (ADMP UK) conducted integrated BPT based on treatment manual (the development version of Röhricht, 2006).	twice a week (1.5 hour each), total 20 sessions for 10 weeks	<ul style="list-style-type: none"> <li>Negative symptoms, anergia, affective blunting and general psychopathology were significantly lessened.</li> <li>These results were the same as the Röhricht &amp; Pribe (2006)'s.</li> <li>Positive symptoms did not change.</li> <li>Nine of participants could attend more than 10 sessions.</li> <li>Three participants dropped out.</li> </ul>
Martin et al. (2016)	Comparison of the effectiveness of a combination of BPT and Dance Movement Therapy (BPT/DMT) with Treatment as usual (TAU) (MRCT)	Out-patients suffering from schizophrenia $n=68$ (BPT/DMT $n=44$ , TAU $n=24$ )	<ul style="list-style-type: none"> <li>For the BPT/DMT group, trained and accredited dance movement therapists and co-theraists (students) conducted a combination of BPT and DMT based on the treatment manual (Röhricht &amp; Papadopoulos, 2010).</li> <li>The TAU group was conducted medical treatment only.</li> </ul>	twice a week (1.5 hour each), total 20 sessions for 10 weeks	<ul style="list-style-type: none"> <li>Compared with the TAU group, the BPT/DMT group significantly lessened their severity of overall negative symptoms, affective blunting and attention.</li> <li>After four months, the effect-sizes in the BPT/DMT group were moderate; severity of overall negative symptoms (<math>ES=0.41</math>), affective blunting (<math>ES=0.34</math>), and attention (<math>ES=0.42</math>).</li> <li>The total drop-out rate was 31% (finished post test: BPT/DMT <math>n=31</math>, TAU <math>n=16</math>).</li> </ul>
Pribe et al. (2016)	Comparison of the effectiveness of BPT with Pilates (MRCT)	Out-patients suffering from schizophrenia $n=275$ (BPT $n=140$ , Pilates $n=135$ )	<ul style="list-style-type: none"> <li>For the BPT group, trained and accredited dance movement therapists by ADMP and co-facilitator conducted the integrated BPT based on the treatment manual (Röhricht &amp; Priebe, 2006; Röhricht, 2000).</li> <li>For the Pilates group, trained Pilates instructor with co-facilitator conducted beginner's Piralles classes based on the Pilates manual.</li> </ul>	twice a week (1.5 hour each), total 20 sessions for 10 weeks	<ul style="list-style-type: none"> <li>No significant differences between the BPT group and the Pilates group in the negative symptoms.</li> <li>In the BPT group, expressive deficits and movement disorder symptoms were slightly improved.</li> <li>After 20 sessions and 6 months, negative symptoms were not lessened in the BPT group; it indicated that there were no benefit from BPT.</li> <li>The total drop-out rate was only 7% (finished follow-up test: BPT <math>n=131</math>, Pilates <math>n=124</math>).</li> </ul>
Savill et al. (2017)	Re-examine in Pribe et al. (2016) the effect of BPT for women with schizophrenia	Out-patients women suffering from schizophrenia $n=72$ (BPT $n=37$ , Pilates $n=35$ )	<ul style="list-style-type: none"> <li>The same procedure with Pribe et al. (2016).</li> <li>In the data of Pribe et al. (2016), there was a bias in sex ratio (24% of the total female), so, re-analyzed only women data.</li> </ul>	twice a week (1.5 hour each), total 20 sessions for 10 weeks	<ul style="list-style-type: none"> <li>Compared with the Pilates group, the BPT group was significantly lessened their negative symptoms.</li> <li>It was indicated that BPT has effects for the lack of representation in women with schizophrenia.</li> </ul>

tal (Martin et al., 2016; Röhrlich et al., 2009, 2011; Priebe et al., 2016; Röhrlich & Priebe, 2006). On the other hand, in clinical practice, different procedures can be used depending on patients and therapeutic needs. Röhrlich et al. (2011) emphasized six main elements in their integrated BPT treatment manual for schizophrenia (Röhrlich & Priebe, 2006):

1. Improving communication channels through the introduction of nonverbal communication techniques;
2. Refocusing cognitive and emotional awareness towards the body (physical reality coordination and orientation in space);
3. Stimulating activity and emotional responsiveness;
4. Promoting exploration of self-potential by focusing on the strength and capability of the body, and experiencing the body as a source of creativity, reliability, pleasure, and self-expression;
5. Modifying dysfunctional self-perception;
6. Addressing common psychopathological features, such as loss of boundaries, somatic depersonalization, and body schema disturbance.

According to the manual (Röhrlich & Priebe, 2006), sessions of integrated BPT consist of five components:

1. **Opening circle:** feeling one's body and increasing bodily awareness;
2. **Warm-up section:** warming up through exercises, such as stretching, exploring oneself, and the spatial dimensions within and outside the body, and focusing on one's bodily experiences and movements;
3. **Structured task section:** exploring oneself in three dimensions by performing certain exercises, such as delineating one's own boundaries using a rope; exploring the body-ego as a consistent, self-evident, and active construct by exercises, such as copying each other's movements; and exploring emotional movements by exercises, such as stamping and stroking;
4. **Creative moment section:** moving creatively using the body as a source of creativity and pleasure through exercises, such as moving the body with rhythmic music or according to a specific topic, creating group sculptures, and reflecting on feelings; and
5. **Closing circle:** reflecting on group experiences and re-focusing on oneself through self-touch, and communicating feelings and ideas openly. All sessions focus on increasing bodily awareness and emotions based on body movements.

Studies have shown that integrated BPT had fewer drop-out patients than supportive psychotherapy; this may be attributed to its more pleasant elements, which focus specifically on body sensations, stimulation of creativity, and shifting attention to the body (Röhrlich et al., 2009). Röhrlich et al. (2009) indicated three main effect factors in integrated BPT. The first involved focusing on body feel-

ings and expressing these feelings in words. The second involved changing one's body feelings and movements, and the third involved activating self-sensation and creativity. As a result, the original somatic functions are regenerated by using nonverbal communication via the body. Subsequently, recovery of these functions ameliorates the patient's ego-disturbance, poor motivation, and flat affect. Integrated BPT has many merits for addressing negative symptoms of schizophrenia; however, there would be methodological issues with studies investigating BPT for schizophrenia. First, only a few studies have been conducted, and some of these may be biased, as they were conducted by the same researchers (e.g., Röhrlich) and addressed only integrated BPT. Second, the therapeutic mechanisms and applicability of integrated BPT in severe cases have not been sufficiently explored, except for one study that investigated why and how BPT is effective through the use of interviews with participants who experienced manual-based (Röhrlich, 2010) integrated BPT (Galbusera, Fellin, & Fuchs, 2019). Third, the efficacy of integrated BPT in reducing positive symptoms have not been fully established. Therefore, further studies are required to confirm the effects of integrated BPT in patients with schizophrenia.

## B. Dohsa-hou

Dohsa-hou is a Japanese psychotherapy approach that aims to induce therapeutic psychological changes and integrate the body and mind by changing body movements (Naruse, 2014). Gosaku Naruse, Ph.D. trained in and practiced various psychological approaches, such as psychoanalysis, behavioral therapy, hypnosis, autogenic training, and psychodrama, and he established Dohsa-hou based on these clinical experiences. Through his clinical practice of hypnosis, he realized the importance of experiences to feel mental imagery with a sense of reality. Also, trance states and the unconscious were clues to the development of Dohsa-hou. In his practice of psychoanalysis, he considered that the therapeutic effects would be brought by the "conscious and unconscious experience modality (how to experience)" that occurred in free association. Through his practice of behavioral therapy, he came to realize the importance of the psychological processes that determine behavior. In 1988, as a "self-control technique," he introduced autogenic training based on self-hypnosis to Japan (Naruse, 1988). Based on autogenic training, he deduced that self-treatment, experiences of mental imagery with a sense of reality, and self-hypnosis in mild trance states would be important in treatments. However, since the effect of hypnosis is temporary, he thought it would be important to develop a "self-treatment theory" to help clients treat themselves. Later, based on elements of psychodrama, he thought that it would be important in psychotherapy to "strain oneself moderately and to perform the intended action feeling mental imagery with a sense of reality (Naruse, 2014)". Through these

experiences, he advocated image therapy and formed the basis of a theory of mind-body unity.

The use of Dohsa-hou began in the mid-1960s in Japan (Osaka university, 2015). Initially, it was found to be effective in treating people with cerebral palsy (Figure 1).

Since the 1980s, Dohsa-hou has been mainly used for patients with schizophrenia requiring long-term hospitalization. It focuses on the processes and experiences of psychological activities, which are schematized as the internal processes of “intention – making efforts – execution of the body movement.” It occurs as the client intends to imagine a body movement and makes an effort to do the movement, and then finally, executes the movement. When clients perform a body movement, the therapists focus on clients’ movement, namely the psychological processes related to generating their motor activity (“Dohsa”).

Figure 2 shows an example of an arm-raising movement in a university student; the first picture was taken before a Dohsa-hou session, and the second picture shows the process of arm-raising movement with self-active relaxation. The last picture in Figure 2 was taken after a Dohsa-hou session; the student can move his arm smoothly

while feeling comfortable. In the case of the arm raise, “intention” refers to imagining the action, “making efforts” refers to making a psychological effort to initiate the movement by slowly trying to raise the arm while keeping it straight, and “execution of the body movement” refers to achieving this movement by raising the arm straight above the head.

Tsuru (2002) defined Dohsa-hou as a therapeutic approach focused on psychological processes, namely the subjective experiences that occur when people try to control their body movements. The therapy combines two theories of treatment: therapeutic experiencing theory (“Taiken-chiryō-ron” in Japanese), which focuses on clients’ experiences, and self-treatment theory (“Jiko-chiryō-ron” in Japanese), which emphasizes that clients could transform how to feel their environment through changing their body movements by themselves.

Clinical use of Dohsa-hou for treating schizophrenia is usually conducted in groups, on a weekly basis for 40–60 minutes, requiring 6–15 sessions in total. Therapists ask patients to perform body movements slowly. These include “arm raising,” “shoulder raising,” “bending the upper body forward,” and “standing against gravity.” Based on the Dohsa-hou treatment manual for schizo-

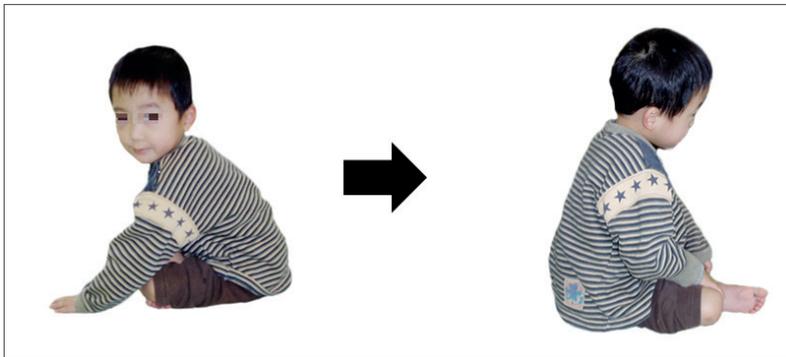


Figure 1. Sitting posture of cerebral palsy child before and after seven Dohsa-hou sessions

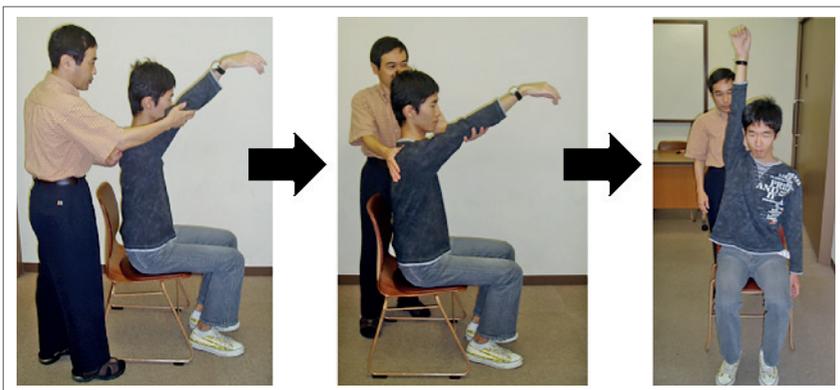


Figure 2. An example of the arm-raising movement

phrenia (Kamikura & Shimizu, 2018), we have described how to conduct a Dohsa-hou session where the therapist conducts the “arm raising” movement of the client in the seated position.

The following is a list of instructions typically issued during a treatment session along with explanations of their purpose. The therapist’s remarks are enclosed in double quotation marks.

1. *“On performing the arm-raising movement, your muscle tension will be eased. You will then be able to raise your arms more easily.”*
2. *“Please raise your arms one-at-a-time, slow and straight. First, please raise your left arm.”* To demonstrate, the therapist would raise his or her arm at the same time. *“Please raise your arm slowly at the same pace as me, no faster.”* The therapist would then pay attention to the movement and the speed with which it occurred, while assessing the client’s psychological and chronic muscle tension. The therapist checks that the client’s arm has been raised straight up. Raising the arm straight is slightly difficult because it requires the client’s attention.
3. *“Which arms did you feel were hard to raise?”* With the question, the client can clarify his or her difficulties regarding the movement and the muscle tension felt.
4. *“Please raise the arm. Stop the movement when you feel that it is hard to move or has become slightly stuck.”* This enables the client to concentrate on the muscle tension and make efforts to ease the muscle tension. *“Please release your shoulder’s muscle tension, then your tension will ease and you might be able to raise your arm more easily.”*
5. *“Let’s raise your arms one-at-a-time. Please compare the movements of the left and right arms. You would have felt that it was easier to raise the same arm that was hard to raise before. That is to say, you were able to ease its tension.”*

During this time, therapists do not focus on the clients’ achievements, but on their self-controlling activity.

For patients with schizophrenia, 20 intervention studies have been conducted using Dohsa-hou. In qualitative studies, this therapy has been shown to have many beneficial effects in patients with schizophrenia, including its ability to alleviate positive and negative symptoms (Ikeda, 1992; Tsuru, 1995, 1998, 2002, 2005), enhance social adaptability (Kamahara et al., 1980; Tsuru, 1995), and improve interpersonal interactions (Tsuru, 2005). In addition, it is effective in treating severe cases (Kamikura & Shimizu, 2015; Kamikura & Shimizu, 2016). For example, Tsuru (2002) examined the effects of Dohsa-hou in five patients in the chronic phase of schizophrenia. The intervention was applied in a hospital, once a week, for 14 sessions in total (time unknown for each session). Allevia-

tion of negative symptoms and physical and psychological relaxation were observed in all cases; moreover, positive symptoms, such as auditory hallucinations of persecution, were reduced. Tsuru concluded that Dohsa-hou is useful for chronically ill patients with schizophrenia because it can promote self-activation experiences through unconscious processing. Tsuru emphasized two important roles for therapists treating patients through Dohsa-hou; first, they should clarify the clients’ goals by selecting simple body movements, and at the same time, they should assist clients in becoming more autonomous in performing their body movements. Tsuru also insisted that the processes of “intention – making efforts – execution of the body movement” and “promotion of subjective experiences” are crucial for improving clients’ symptoms. Through the processes, clients acquire “subjective activity experiences” as well as “self-utilizing experiences,” such as acceptance, challenge, and self-activation.

In a quantitative study, Kamikura and Shimizu (2013) examined the effects of Dohsa-hou by evaluating 12 patients with schizophrenia in the chronic or acute psychotic phases using the Self-evaluation for Adaptive Functioning Scale (SAFE; primary outcome; Harvey et al., 1997). Group-based Dohsa-hou was conducted in a hospital, once a week for 40 minutes per session, for a total of six to eight sessions. Outcomes, including SAFE scores, and positive symptoms and motivations (secondary outcomes) evaluated on the basis of a case study were assessed at baseline and after treatment. After Dohsa-hou, patients showed significantly lower social adaptive disturbance (SAFE); a low score in SAFE indicates high social adaptation. In addition, the case study indicated fewer auditory hallucinations and delusions, as well as recovery of patients’ motivation. The authors assumed that “self-adjustment experience in sub-conscious” in Dohsa-hou processes promoted the activation of “self-existence” in patients, leading to the amelioration of both negative and positive symptoms. The authors assumed that subconscious experiences stimulated by Dohsa-hou therapy promoted the notion of “self-existence” in patients, leading to the amelioration of both negative and positive symptoms.

Most related studies have suggested that Dohsa-hou treatment have a less than 5% drop-out rate and would be highly cost-effective, as it requires only short-term intervention (Kamikura, 2015; Kamikura & Shimizu, 2013). In addition, even patients who refused to participate in SST and hospital events due to their negative symptoms chose to continuously participate in Dohsa-hou treatment. Therefore, the “accompanying experiences with Dohsa-hou” (Naruse, 2014), such as relaxation and comfort, make the intervention less psychologically invasive for the patients. Conventionally, the effective factors in Dohsa-hou have been focused on the experience modality; “Taiken-Youshiki” (Naruse, 1988) in Japanese, which means the modification of the experience modality, induces changes in clients’

cognitions and lifestyles, and “Jitai-Kan” (Tsuru, 1993) in Japanese, which means the sense of self-body, integrates the mind and body in a stable, active, and positive state. However, many researchers have presumed that various factors drive the therapy’s effectiveness, such as “self-adjustment experience in sub-conscious” (Kamikura & Shimizu, 2013). Thus, no consensus currently exists regarding what the effective factors are. Therefore, further research on the mechanisms underlying Dohsa-hou effects is critically important.

### C. Similarities and Differences between Integrated BPT and Dohsa-hou

Integrated BPT and Dohsa-hou have three main similarities. First, both therapies focus on the body’s feeling and awareness. Even if clients have difficulties in verbal communication, they can still build relationships with other people through these therapies. Second, clients can communicate with themselves proactively and deeply because integrated BPT exercises and body movements in Dohsa-hou are clearer and easier to understand than those of verbal psychotherapies. Hence, both methods address clients’ psychological states at a more unconscious level than do verbal psychotherapies. Finally, both approaches have a low drop-out rate (Kamikura, 2015; Kamikura & Shimizu, 2013; Röhrich et al., 2009), which may be due to the features of integrated BPT exercises and body movements in Dohsa-hou. Generally, clients enjoy engaging in the exercises and movements included in both therapies, and feel comfortable in their body and mind due to the activation of somatic feelings and awareness, such that they continue participating in the groups.

The therapies differ, however, in their effects and application range. Integrated BPT is useful for treating patients with negative symptoms of schizophrenia who tend to have poor body awareness and flat affect; but, its efficacy in alleviating positive symptoms and in treating intractable cases has not been established. In contrast, it has been reported that Dohsa-hou can improve both positive and negative symptoms while increasing adaptability, activity, and interpersonal interactions. Therefore, it is likely that adaptation occurs both internally and externally. Dohsa-hou also has the added benefit of requiring shorter interventions than integrated BPT, and is applicable for more severe cases (Kamikura, 2016; Kamikura & Shimizu, 2015). In general, Dohsa-hou interventions occur once a week, with a total of 6–15 sessions of 40–60 minutes each (Ikeda, 1992; Kamahara et al., 1980; Kamikura & Shimizu, 2015; Tsuru, 1988; 1992; 1995; 2005), whereas integrated BPT is conducted twice per week, with a total of 20 sessions of 90 minutes each (Martin et al., 2016; Röhrich et al., 2009, 2011; Savil et al., 2017).

The differences between the effects and the intervention durations would be ascribed to these differing approaches that target different layers of the mind. Dohsa-hou aims

to integrate body and mind, and obtain a “sense of self.” Thus, it deals with the holistic processes of motor activity, “Dohsa”, including mental activities that are mainly sub-conscious and unconscious. Dohsa-hou therapists ask clients to perform a simple movement slowly in order to increase their self-awareness. Therefore, after Dohsa-hou intervention, clients would be able to focus consciously, subconsciously, or unconsciously to allow for maximum flexibility suited to the situation. In contrast, the goal of BPT is to attain the “embodied self.”

Galbusera, Fellin, & Fuchs (2019) found that Integrated BPT involves six main themes:

1. Being whole by achieving a body-mind connection;
2. Being agentic and able;
3. Being unique, worthy, and accepted for who one is;
4. Changing interactions: engaging in authentic interpersonal contact;
5. Being part of a group: feeling integrated;
6. Hope and investment in the future.

Therefore, it focuses on increasing body awareness and emotions through body movements to activate cognition, emotion, and physical and social integration, mainly through consciousness and sub-consciousness. Dohsa-hou places value on clients’ self-treatment capacity and encourages autonomy; thus, clients would have more positive attitudes regarding the psychotherapy processes in Dohsa-hou. Dohsa-hou would transform clients’ awareness and experience modality of their bodies and their environments, and promote self-treatment and body awareness. Therefore, Dohsa-hou may affect deeper layers of consciousness compared with other psychological approaches, and the duration of treatment is shorter than that of BPT.

Another difference between integrated BPT and Dohsa-hou lies in the history of their studies. Researchers began empirically exploring the effect of integrated BPT on schizophrenia in 2006 (Röhrich & Priebe, 2006). However, only nine published studies exist, though large-scale studies investigating their clinical efficacy have been conducted recently. In contrast, the use of Dohsa-hou for treating schizophrenia has been studied since 1980 (Kamahara et al., 1980), and 21 studies have been published this far. However, these are mainly case studies, so additional empirical studies are required.

## Summary

Outside Japan, research on psychotherapy for schizophrenia have flourished; however, in Japan, few RCTs have been conducted, and the application of effective psychological approaches has also failed to progress. Both in Japan and abroad, very few psychological approaches are effective in reducing the symptoms of schizophrenia. Supportive

psychotherapy requires long-term intervention and is unlikely to reduce psychological symptoms, while social skills training and psychological education have limited impact on improving patients' skills. In contrast, although the APA and NICE recommend CBT for patients with schizophrenia, recent studies showed that the effect size of CBT for treating positive symptoms is smaller than that in older studies, and suggested that CBT is not effective in reducing negative symptoms. Moreover, few mental health institutions provide CBT in Japan. Thus, further examination of the therapeutic effect of CBT on schizophrenia is required.

In contrast to supportive psychotherapy, integrated BPT and Dohsa-hou can reduce symptoms, even with short-term interventions. Since verbal psychotherapy primarily treats symptoms at the conscious level by using language, its targets and effects are limited; therefore, nonverbal psychotherapy, such as integrated BPT and Dohsa-hou, have shown effectiveness in treating the negative symptoms of schizophrenia, including intellectual decline, decreased cognitive ability, and reduced speech production. Compared with integrated BPT, Dohsa-hou, which is primarily used in Japan, is clinically effective in treating not only the negative but also the positive symptoms of

schizophrenia. Additionally, Dohsa-hou has many advantages over other psychological approaches for treating schizophrenia: it is less psychologically invasive, and can be applied to all cases, including intractable cases. In addition, studies have suggested that Dohsa-hou treatment would have a lower drop-out rate and be highly cost-effective, as it requires only short-term intervention. Moreover, practical clinical knowledge of this method has accumulated over many years; therefore, it is important to expand the empirical knowledge related to Dohsa-hou for providing more effective psychological aid for patients with schizophrenia. In addition to promoting Dohsa-hou in clinical practice, researchers should aim to provide knowledge regarding the mechanisms of its effects to other medical health professionals and psychotherapists who are oriented toward other approaches. In conclusion, further research on and application of integrated BPT and Dohsa-hou are expected for patients with schizophrenia.

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