

# Characteristics and challenges of psychotherapy for people with diabetes through an overview of overseas case studies

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**Abstract:** The purpose of this study was to capture the characteristics of psychotherapy for people with diabetes by reviewing overseas case studies on psychotherapy for people with diabetes, and to indicate future issues for case studies. The 45 articles were classified based on their content and were divided into four groups. Group 1 consisted of studies that dealt with the relationship between diabetes and other diseases/disorders, and many studies discussed the co-occurrence of diabetes and eating disorders. Group 2 consisted of studies showing the effectiveness of psychotherapy, with biofeedback therapy and CBT often discussed. Group 3 was research that focused on the psychotherapy process, which included a dynamic understanding of the client's mind, including childhood experiences and family relationships. Group 4 was a study that dealt with the relationship between people with diabetes and the people around them and discussed care for the family members of people with diabetes and the involvement of the medical team. It is hoped that further research will be conducted in each area to develop psychological care for people with diabetes.

**Keywords:** diabetes, psychotherapy, case study, overview

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## Introduction

### ***Psychological care for people with diabetes and significance of case studies***

Diabetes mellitus is “a complex metabolic disorder characterized by chronic hyperglycemia resulting from defects in insulin secretion, insulin action, or both” (Libman et al., 2022, p.1161). This disease is classified into two types: type 1 diabetes, in which the blood glucose levels rise due to the inability of the pancreas to secrete insulin, and type 2 diabetes, in which insulin secretion are inadequate due to genetic or lifestyle factors. Type 2 diabetes is generally known as a disease derived from lifestyle but can lead to serious complications and is

a chronic disease with no cure.

In the 20th century, research on the relationship between diabetes and patients' personalities became active, mainly in relation to anxiety, depression (e.g., Menninger, 1935). However, as medical research on the etiology progressed, it became clear that diabetes was not caused by psychological factors. Dunn & Turtle (1981) stated that it could not be concluded that a personality type can be highly associated with diabetes, so further research is needed on psychological care for people with diabetes (PWD)<sup>1)</sup> who have different personalities individually. Currently, the number of PWD is increasing, and the need for psychological care is being emphasized

both domestically and internationally. The goal is for PWD who need to engage in self-care in their daily lives to maintain their quality of life and proceed with treatment, and psychosocial care and patient-centered collaborative care are considered essential (ElSayed et al., 2023).

Numerous studies on the psychological care for PWD have focused on the effects of the psychotherapy. Ismail et al. (2004) reviewed studies on effects of psychotherapy for PWD and found that psychotherapy contributed to long-term glycemic control and improvement of psychological distress. These studies are imperative for elucidating the effectiveness of psychological interventions to improve glycemic control. Alternatively, as Hinkle (1956) stated, it is necessary to view PWD as active members of the society who adapt to complex events and situations of the world. In psychological care for the PWD, the emphasis is on understanding of the PWD as people who live everyday lives in relationships with various people and things, i.e., individuality. PWD are needed to participate in their own care through dietary adjustments, blood glucose control, exercises, and medication. However, many PWD find self-care difficult due to various factors such as lifestyle, family environment, and other illnesses. Numerous studies have clarified the relationship between various psychological factors such as self-efficacy and glycemic control (e.g., Johnston-Brooks et al., 2002). As Kawai & Ishii (2015) also stated that it was crucial to accumulate case studies focusing on the psychotherapy for the PWD who had been affected by the individual psychological issues and life situations.

### **Objective**

Although many case studies on

psychotherapy for PWD have been conducted in Japan and abroad, studies that review them are few. Chiba (2021) has reviewed case studies on psychological support for PWD in Japan, clarifying that there are many case studies on the co-occurrence of diabetes and eating disorders (ED) and that a variety of psychological techniques can be effective for PWD. However, the studies covered are limited to those published in Japanese journals. By clarifying international trends as well, it would be possible to gain a more multilayered understanding of the characteristics and issues of psychotherapy for PWD. Thus, the objectives of this study are as follows: (1) grasp the characteristics of psychotherapy for PWD by reviewing international case studies, and (2) show the future issues of case studies on psychotherapy for PWD in Japan and overseas, referring to the characteristics in Japan described in Chiba (2021).

In this study, “psychological care” refers to the care for the mind, and “psychotherapy” refers to continuous involvement for psychological care by the professionals related to psychological support. Psychotherapy includes methods based on certain schools of thought or techniques such as cognitive behavioral therapy (CBT), psychoanalytic psychotherapy, or patient-centered therapy as well as continuous psychological care based on the psychological assessment and integrated understanding of the PWD, including their family relationships, upbringing history, and interpersonal relationships.

### **Method**

By reviewing international case studies on psychotherapy for PWD, this study has

targeted case study articles published in international journals. The *Web of Science* and *PubMed* were used to search for articles. In the *Web of Science*, the search results for “diabetes AND psychotherapy AND case” were used as search terms, and “English” was selected as the desired language and “article” for the document type, wherein 23 articles were found as of February 20, 2020 and 7 new articles were found as of March 19, 2024<sup>2)</sup>. In addition, the search results for “diabetes AND psychology AND case” were used as search terms, and “English” was selected as the desired language and “article” for the document type, wherein 23 articles were found as of February 25, 2020 and 14 new articles were found as of March 19, 2024. In *PubMed*, the search results for “diabetes,” “psychotherapy,” and “case” were used as search terms; “case reports,” “classical article,” and “clinical study” were selected for the article type; “humans” was used for species; and “English” was selected as the desired language. 131 articles were found as of March 22, 2020<sup>3)</sup> and 22 new articles were found as of March 25, 2024. The 220 articles were checked for the following four points: (1) whether they were works in the form of articles, (2) whether they were case studies, (3) whether they were intended for PWD, and (4) whether they involved psychotherapy. For (2), the papers were mainly excluded from the survey research and papers in which cases were included only as examples for certain claims. For (3), if the client was confirmed to have diabetes as a pre-existing condition, but their diabetes was not addressed in the subsequent course or discussion, they were not considered to be relevant to the purpose of the study and were excluded. For (4), we included studies in which psychotherapy was conducted in the course of the case

and its content was described or studies in which clinical psychological considerations were made about the case wherein it could be said to contribute to psychotherapy for PWD. These four points were reviewed by a graduate student in the Department of Clinical Psychology, and we conferred in cases where a difference in judgment can be observed.

While reviewing all the articles, because studies with similar themes were found, I believe it would be helpful to discuss the studies by dividing them into several groups. Therefore, I briefly summarized the contents of each paper on a card, focusing on the objectives of the studies, and conducted a group generation by gathering similar studies.

## Results and Discussions

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### ***Overview of the papers and group generated***

As a result of the search and selection as described above, 45 articles were treated in this study (Figure 1). 14 papers examined multiple cases, bringing the total number of cases to 76 (Table 1). The sex and age of the clients in the cases are shown in Table 2, and the cases were characterized by a large number of young women.

In generating the groups, several studies were conducted psychotherapy for clients who had other illnesses with diabetes, such as ED or vomiting disorders, aimed at caring for both of them. There were also several studies that aimed to demonstrate the effectiveness of the psychotherapy which exhibited changes before and after the intervention. In contrast to this group, a group of studies the purpose of which was to examine the psychotherapy process itself was also generated. Additionally, one study focused on the psychotherapy

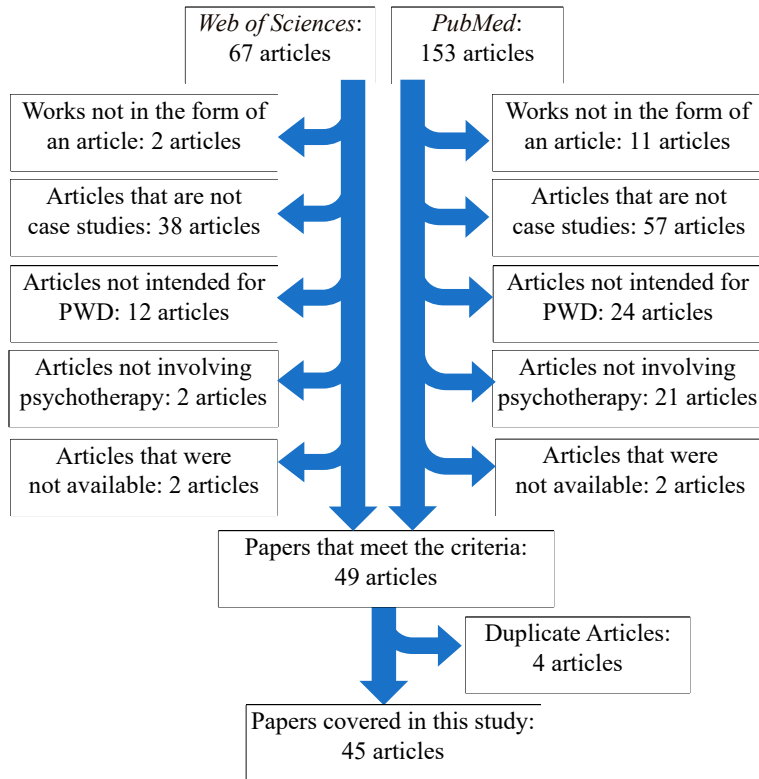


Figure 1. Selection process and number of articles

Table 1. The number of cases

The number of case per article	1 case	2 cases	3 cases	4 cases	6 cases	7 cases	Total
The number of article	31	7	2	3	1	1	45
Total of cases	31	14	6	12	6	7	76

Table 2. Sex and age of clients

	Under 10 years old	Teens	20s	30s	40s	50s	60s	70s	80s	Total
Male	2	7	3	1	2	0	1	2	1	19
Female	3	18	22	4	4	2	3	1	0	57
Total	5	25	25	5	6	2	4	3	1	76

of the child with diabetes and her family members and several studies focused on the involvement of the medical personnel in the PWD. These were ultimately combined into the same group that focused

on the relationship between PWD and people around them. As a result, there were four groups: 1) research has been conducted on the relationship between diabetes and other diseases/disorders

or comorbidities and psychotherapy; 2) research has shown the effectiveness of psychotherapy techniques; 3) research has focused on the psychotherapy process and the psychological themes of PWD; and 4) research has been conducted on the interactions between PWD and the people around them (medical personnel or family members).

### ***Overview and prospects by group***

The following discussion will be conducted for each group. While highlighting the studies that are important in the groups, the discussion will focus on the role and significance of psychotherapy and clinical psychological understanding in each case.

#### **Group 1: Research has been conducted on the relationship between diabetes and other diseases/disorders or comorbidities and psychotherapy**

This group included 12 papers and 19 case studies. Among them, four papers on the co-occurrence of diabetes and ED were the most frequent (Powers et al., 1983; Malone & Armstrong, 1985; Yaryura-Tobias et al., 2001; Hacia, 2013). Other diseases, disorders, and comorbidities such as vomiting syndrome (Ogiso et al., 2015), erectile dysfunction (Bohannon et al., 1982), pregnancy denial (Jacques et al., 2018) were also examined in relation to diabetes. In the case of medical neglect of a child with diabetes (Geffken et al., 1992) and in a case of a woman who had genetic, neurophysiological, immunological, and psychological challenges in addition to diabetes (Calobrisi, 1983), the client eventually died. A study on life-prolonging treatment (Diamond, 1988) also described a case in which a client died as a result of respecting the client's wish. A case of Munchausen syndrome has also been studied (Niafar et al., 2017; Diaz-Puentes

et al., 2019), which was characterized by multiple cases of life-or-death situations.

With regard to ED and diabetes, many cases of co-occurrence have been recorded in Japan and treatment is often difficult (Chiba, 2021, p.444). In Malone & Armstrong (1985), young women with co-occurring ED underwent a behavior modification program that included inpatient dietary management, as well as group therapy, during which they discussed their conflicts with their families. In Yaryura-Tobias et al. (2002), it was indicated that the client presented with suicidal ideation and self-induced vomiting, which were improved through behavioral therapy to control weight and cognitive therapy by discussing the client's feelings of worthlessness and need for approval. Overall, psychotherapy was characterized by interventions aimed at controlling eating behavior while remaining attuned to the struggles and suffering of the client.

Alternatively, not many studies have mentioned the mechanism of co-occurrence. Isono (2015) states that calories and nutrients are important indicators for people with ED in determining what is acceptable to eat, but they are only "concepts" that can be retrieved through the scientific method. She indicated that if food is managed strictly according to these concepts, people will marginalize the diversity of experiences that eating can bring (pp.158-159). Controlling of food through the concept often applies to PWD. The tendency to view food in terms of food types and nutrients and to distance oneself from the experiences associated with food is characteristic in both diseases. These mechanisms should be examined in detail through clinical cases in the future.

**Group 2: Research has proven the effectiveness of psychotherapy techniques**

This group included 18 papers and 26 case studies. The techniques used were CBT in six cases (Peveler & Fairburn, 1989; Boyle et al. 2004; Perfect & Elkins, 2010; Khalid & Naz, 2018; O'Donnell et al., 2019, Kern et al., 2022), biofeedback therapy (BFT) in four cases (Fowler et al., 1976; Rosenbaum, 1983; Bailey et al., 1990a; Bailey et al., 1990b), behavioral therapy in two cases (Steel et al., 1986; Adkins et al., 2006) and solution-focused therapy (Cox et al., 2019), multisystemic therapy (Ellis et al., 2003), hypnotherapy (McKittrick et al., 2021), crisis intervention (Duffey et al., 1993), COM-B approach (McCrossan et al., 2022), and role-modeling therapy (Sappington & Kelley, 1996). It was characterized by the use of questionnaires or other indicators to show the effectiveness of the technique based on evidence. BFT has been used from the 1970s to the 1990s and has been shown to be an effective treatment for diabetes in terms of increasing their sense of control over their own bodies and stress coping skills (Rosenbaum, 1983). CBT has been studied from the 1980s and has also been shown to be effective in changing the sense of control over the body, suggesting that CBT has already replaced BFT. In Kern et al. (2022), the effectiveness of online CBT was examined.

In most of the studies that used CBT, the clients tend to reflect on their own lives and emotions and what relationship they had to glycemic control. In Boyle et al. (2004), the clients who underwent exposure therapy experienced what kind of physical and emotional changes that occur when a hypoglycemic attack occurs. The intervention was matching the numerical changes in the blood glucose levels with the client's own feelings. PWD are required

to control blood glucose, but changes in the blood glucose levels are basically not felt by the clients themselves. Therefore, CBT is considered to work effectively as a link between the client's own sensations or feelings and the physical/physiological changes that are actually occurring.

In this group, no techniques other than CBT and BFT have proven to be collectively effective. Japanese studies have also reported the use of group therapy, *Dohsa-ho*, and imagery therapy in PWD (Chiba, 2021). Further case studies are needed to prove that various psychotherapy techniques can be effective in response to the psychological challenges of each client.

**Group 3: Research has focused on the psychotherapy process and the psychological themes of clients**

This group included 10 papers and 15 case studies. The discussion was based on perspectives such as psychoanalytic understanding of transference/countertransference, acting out, envy, and contained (Levine, 1976; Mester, 1983; Moran, 1984; Moran, 1987; Stein, 1992; Tallandini, 1999; Ginieri-Coccossis & Vaslamatzis, 2008); identity (Tilden et al., 2005); and dynamical understanding with emphasis on family relationships or emotional expression (Berlin & Wise, 1980; Nathan, 1985).

Ginieri-Coccossis & Vaslamatzis (2008) discussed the psychotherapy process with a woman with diabetes. The client, a woman who had experienced abandonment by her mother as a child, had difficulty in self-care. In psychotherapy, clients sometimes experienced feelings of not being understood by the therapist and feelings of abandonment, but the therapist professionally handled this by overlaying with the experiences with her mother, the client were able to talk about

various feelings she had held since her childhood. Gradually, the client became able to contain her own emotions and to act carefully with regard to blood glucose control and self-care. The authors state that clients who have had traumatic childhood experiences and dysfunctional mother-child relationships may show impairment in stable connection with internal objects and container functions. The gradual clarification of childhood experiences on the basis of the therapeutic relationship can result in improve diabetes control.

Nathan (1985) reported a case of two preadolescent boys. They had been repeatedly hospitalized for diabetic ketoacidosis (DKA)<sup>4)</sup>. They were characterized by difficulty recognizing their emotions and not being able to express their emotions. However, as the play therapy progressed, they began to express their emotions intensely and gradually showed mature, symbolic expressions. It was also important for them to feel in control of themselves. DKA can lead to feelings of helplessness and hopelessness and even induce suicidal thoughts as they feel out of control. It was very meaningful to experience, through play, that they could achieve victory on their own and that even if they lost, it would not be as disastrous as death. It was clear that medical treatment alone was not sufficient for these children, and psychotherapy focusing on emotions and sense of control was indicated.

These studies describe the process of understanding the personalities and relations that make diabetes difficult to control, including the clients' past experiences and family relationships. Understanding PWD from the perspective of attachment relationships from childhood expressed in body image and sense of self-control is considered necessary for

the management of diabetes. As was also Ginieri-Coccosis & Vaslamatzis (2008), it is essential to focus on the therapeutic relationship from a psychodynamic perspective when clients who originally had interpersonal difficulties proceed their diabetes treatment with their medical personnel. In Japan, there are few case studies in which understanding is based on psychodynamic concepts and perspectives (Chiba, 2021). This is related to the fact that the number of case studies on PWD by psychologists is limited, which is considered a major challenge in Japan.

**Group 4: Research has been conducted on the interactions between PWD and the people around them (medical personnel or family members)**

This group included five papers and 16 case studies. Specifically, studies on care for family members (Cathcart & Glass, 1981) and on the significance of a medical team and multidisciplinary involvement (Josse & Challener, 1987; Henderson, 1991; Kroll & Shaw, 1994; Feifer & Tansman, 1999) were found.

Cathcart & Glass (1981) described the support for the mother of a girl diagnosed with type 1 diabetes. The girl required insulin injections, but the mother had acrophobia and anxiety with regard to the treatment. The need for care based on the relationship between the children and their mother was described. Hillard & Hillard (1984) stated that the parents of children with type 1 diabetes might have feelings of guilt, anxiety, and depression, which might lead to an inappropriate psychological distance between the parent and child (p.374). It is necessary to carefully consider the changes in family relationships and the support provided to the family as a result of diabetes.

In the studies of multidisciplinary



involvement was characterized by research on the significance of psychologists' involvement. Josse & Challener (1987) and Feifer & Tansman (1999) have suggested the significance of psychologists' involvement as being able to handle the emotional aspects of the PWD in detail, contribute to the acceptance of the disease, conduct integrated assessments, and provide psychological care with a family dynamics perspective. In Japan, there are few case studies that describe the significance and challenges of psychologists' involvement with PWD, but it is believed that further consideration should be given to this issue in the future. This will allow to discover the uniqueness of psychologists' involvement and to gain perspectives for practical care through the human interaction of case studies.

#### ***General considerations and future prospects***

Through an overview of 45 case studies on psychotherapy for PWD, this study shows the characteristics and challenges. Group 1 is a similar category found in Chiba (2021) and is considered important research both domestically and internationally. In this study, I mainly discussed the cases of co-occurrence of ED and diabetes, but even in cases other than ED, it is often very difficult to treat and relate to clients who have some disease or disorder in addition to diabetes. This is an issue regardless of the era or country and is also considered to be a critical issue in clinical practice. In the Japanese medical field, the co-occurrence of depression, dementia, and developmental disorders is often observed, but this has not yet been adequately discussed in a case study. It is necessary to continue to study the psychological care of clients with these diseases or disorders and diabetes.

In most of the case studies, psychologists

provided psychological care; however, in a few cases, diabetologists, psychiatrists, pediatricians and nurses also participated in providing psychological care. The way of involvement of the medical personnel was mentioned by all the groups of articles, and several studies described the importance of involving the PWD from both a professional perspective on the diabetes and psychology and involving with the healthcare team. As the disease is so closely related to life, it is significant to involve PWD from multiple professional perspectives and to care as a medical team. Additionally, although medical personnel emphasize the crucial role of blood glucose control in protecting PWD, it was not always considered to be as important by PWD themselves. This gap in perception between medical personnel and PWD may hinder the formation of a relationship between them; therefore, involving PWD as well as medical professionals from various fields in care is critical. As described by Moran (1984), it is crucial for the PWD to receive psychological care which is of high quality as they could feel loved and protected by those around them, including medical personnel.

#### **Notes**

1) PWD is used in many studies in the field of diabetes medicine as a term for "people with diabetes."

2) Because there was a gap between the time of the article search in 2020 and the submission of the paper, both *Web of Science* and *PubMed* were searched again in 2024 at the time of submission of this paper.

3) When "psychology" was used as the search keyword in *Web of Science*, the same articles were found as when



“psychotherapy” was used as the search keyword. In addition, since most of the articles were not case studies, “psychotherapy” was considered to be sufficient as a keyword for review in this study, and did not use it in *PubMed*.

4) DKA is a condition of hyperglycemia, hyperketonemia, and acidosis caused by extreme insulin deficiency and increased insulin antagonist hormones (Nihon Tonyobyō Gakkai, 2022). It is mainly seen in patients with type 1 diabetes and causes thirst, sweating, nausea, and malaise. It is an acute complication that requires prompt treatment because it can lead to death in some cases.

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