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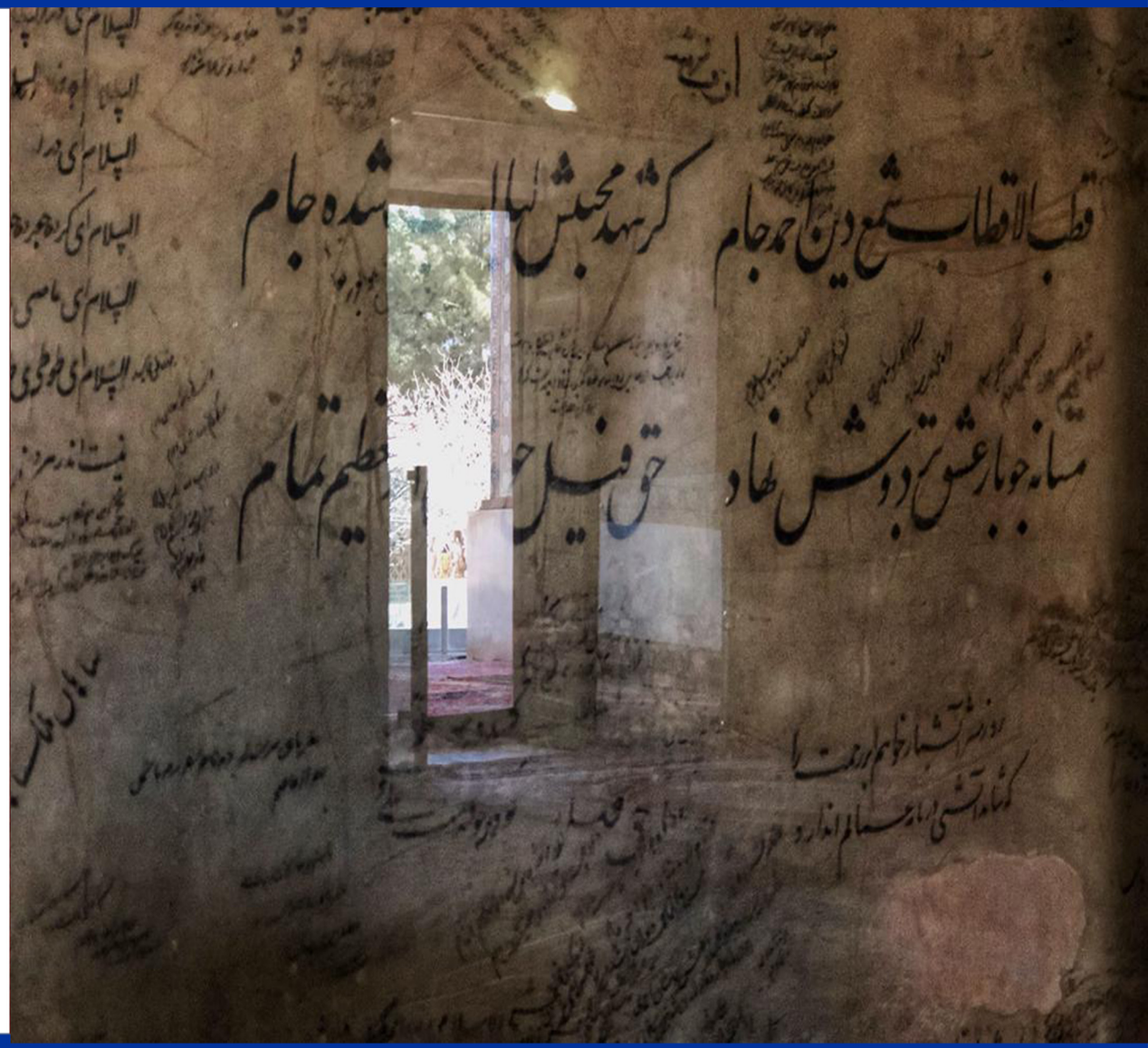

Editorial

Practice and Method of Ethics II
Ulrich Sollmann.....110-118

Clinical Narratives: Bridging the Gap between Medical Texts and Clinical Practice
Mojgan Mokhtari, Alireza Monajemi, Minoo Yaghmaei.....119-125

Quantitative Studies

Developing and Studying the Effectiveness of Bioenergy Economy Program in Body Self-concept and Weight Loss of Women with Obesity
Zahra Ghassemi, Shahram Vahedi, Seyed Mahmoud Tabatabaei, Marizyeh Alivandi-Vafa 126-139

The Effectiveness of Self-Differentiation Training on Cognitive Emotion Regulation and Psychosomatic Symptoms of Nurses
Peyman Yousefzadeh, Amrollah Ebrahimi 140-150

Comparing the Effect of Acceptance and Commitment Therapy and Cognitive Behavioral Therapy on Dental Anxiety
Elham Sadat Binandeh, Naser Saraj-Khorami, Parviz Asgari, Ghader Feizi, Bahareh Tahani.....151-162

Comparison of Effectiveness of Self-Care Group Training and Acceptance and Commitment Therapy on Psychological Well-Being and Quality of Life of Patients with Type 2 Diabetes
Abas Molavi, Hamid Afshar-Zanjani, Kobra Hajializadeh 163-171

The Effectiveness of Compassion-Focused Therapy for Parents on Reducing Aggression, Behavioral Problems and Anxiety in Children
Zahra Abdolali1 , Mandana Sepanta2 , Hamid Afshar Zanjani 172-179

Report

Acute Psychological Responses in the First Days of the COVID-19 Lock-Down Order in China; A Population-Based Survey
Li Wentian, Zhong Baoliang, Kurt Fritzsche.....180-183

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International Journal of Body, Mind & Culture
Cross-Cultural, Interdisciplinary Health Studies

Table of Contents

Theoretical Studies

Practice and Method of Ethics II
Ulrich Sollmann.....110-118

Clinical Narratives: Bridging the Gap between Medical Texts and Clinical Practice
Mojgan Mokhtari, Alireza Monajemi, Minoo Yaghmaei.....119-125

Quantitative Studies

Developing and Studying the Effectiveness of Bioenergy Economy Program in Body Self-concept and Weight Loss of Women with Obesity
Zahra Ghassemi, Shahram Vahedi, Seyed Mahmoud Tabatabaei, Marizyeh Alivandi-Vafa.....126-139

The Effectiveness of Self-Differentiation Training on Cognitive Emotion Regulation and Psychosomatic Symptoms of Nurses
Peyman Yousefzadeh, Amrollah Ebrahimi.....140-150

Comparing the Effect of Acceptance and Commitment Therapy and Cognitive Behavioral Therapy on Dental Anxiety
Elham Sadat Binandeh, Naser Saraj-Khorami, Parviz Asgari, Ghader Feizi, Bahareh Tahani.....151-162

Comparison of Effectiveness of Self-Care Group Training and Acceptance and Commitment Therapy on Psychological Well-Being and Quality of Life of Patients with Type 2 Diabetes
Abas Molavi, Hamid Afshar-Zanjani, Kobra Hajializadeh.....163-171

The Effectiveness of Compassion-Focused Therapy for Parents on Reducing Aggression, Behavioral Problems and Anxiety in Children
Zahra Abdolali1 , Mandana Sepanta2 , Hamid Afshar Zanjani.....172-179

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International Journal of Body, Mind and Culture

Practice and Method of Ethics II

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Theoretical Study

Abstract

The discussion about ethics in the psychotherapeutic field is increasingly broadened by the necessity to not only develop ethical guidelines, but also to deal with their application and implementation in a very concrete way. This article is not about processing and presenting individual ethics cases, but rather about describing the necessity of such a practice context and underlining the structure of a relevant procedure as a necessary component of ethics in the psychotherapeutic field. The article shows successful structures and practice of ethics by means of concrete examples. It extends the study of ethics in the psychotherapeutic field to the management of ethics in relation to the respective psychotherapeutic organization. Especially the application, the structure of the procedure and the practice of ethics bring the occupation of ethics as a method into the focus of the discourse. Ethics as a method is not to be handled arbitrarily, but as a process of discourse, an arrangement, and a joint coordination of relevant plausibilities in the respective therapeutic organization as well as in the psychotherapeutic field.

Keywords: Ethics; Psychotherapy; Practice; Psychotherapeutic organization; Abuse of power

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Introduction

In recent years, heated debates on professional ethics have triggered in therapeutic organizations (not only there, of course). So far, ethics guidelines have been developed, ethics committee have been established, and ethics cases have been dealt with. However, this should not hide two essential aspects. On the one hand, there are sometimes relentless debates and even disagreements that characterize the current discourse in one organization or another. On the other hand, there is a clear discrepancy between the individual psychotherapeutic institutes/organizations with regard to the understanding of ethics, the application of ethics, and a clear, unambiguous, and transparent communication in this regard.

While in one of the last issues of the Intern Journal of Body, Mind, and Culture I have referred to the relationship between ethics, profession, professional roles, and "helping work", this issue focuses mainly on aspects that characterize the implementation and application of ethics. Ethics and "ethics as a method" must always be considered in connection with each other from a scientific theoretical and philosophical point of view. This also underlines the necessity to deal with the organization in which professional ethics are concerned. (Body) psychotherapeutic organizations require such a consideration. After all, the respective organization is the space in which such discourses take place.

Ethics, morals, and ethos: what is at stake?

It is about a fundamental, specific value orientation as well as recommendations for action/guidelines derived from it and practice of application and implementation. Of course, it is also about determining the criteria against which the effective and convincing handling of these recommendations and guidelines can be tested. If possible incidents, irritations, discrepancies occur, a structure of the procedure is required that helps to illuminate, evaluate and regulate such incidents. Such a procedure can only work effectively, carefully and in the sense of the values if a visible structure of the procedure, the specific responsibility or role responsibility is defined and is visible to all those involved from the outset. This is an indispensable prerequisite for success.

In the field of (body) psychotherapy, "ethics" can be understood as the determination, development, and definition of various relevant values that underline one's own professional activity. These are usually laid down in the ethics guidelines. "Morality" provides the concrete, relevant framework for action in the respective personal practice and as a member within one's own professional organization, which determines and regulates the desired, appropriate, and necessary behavior (a typical example from the field of religion are the "Ten Commandments"). While "ethics" is more about a scientifically (philosophical /'humanistic) founded, general determination, "morality" regulates the perspective of action and the ability to act when implementing the values. By organization, I mean associations, institutes, organizations, in which (body-) psychotherapeutic colleagues join in terms of structure and content.

"Ethos", on the other hand, refers to the personal, moral, and moral attitude of a person, or rather it describes the norms and standards/orientation to which the individual aligns his behavior. This can, but does not have to be in accordance with the respective "ethics" in the respective therapeutic organization.

Ethical guidelines and their application (praxeology)

Ethical guidelines, moral conduct recommendations and the personal, ethical

conviction of the individual are closely related to each other. The dynamics of the resulting field of tension requires a permanent discourse, a permanent further development, change, adjustment, as well as expansion of orientation, behavior, and handling of "violations" as well as sanctioning of the same. This includes, meaningfully and necessarily, the review of sanctions.

It is the task of ethics committees (EC) to act as an independent body within the institution/organization as well as a "guardian" of the professional practice of (body) psychotherapists. In this respect, the EC has a dual function. On the one hand, it watches over the "state of the art" of the respective (body-) psychotherapeutic school, and thus over the inner coherence of its orientation, behavior and alignment. On the other hand, it has an administrative, juridical function. Precisely in order to do justice to this, the independence of the organ as well as transparency regarding the structure of the procedure is required. This is comparable to the procedural code in the legal and judicial system or the rules of procedure in an association. This can be understood as a fixed structure of rules and regulations, which on the one hand serves the careful analysis and decision-making, and on the other hand gives others the orientation and certainty that generally accepted rules are followed. The latter gives those who report a question or even an incident to be dealt with the certainty of being able to rely on a professional, independent procedure.

Meanwhile, no (body) psychotherapeutic school or organization can afford to do without fixed ethical guidelines. Nevertheless, what is the situation, one might ask, regarding the practice of implementation (praxeology) when something needs to be clarified, when ethical questions arise, or even when ethical violations are reported? Is there an ethical climate in the professional associations that creates and maintains a lively debate within the association, so that the ethical guidelines are not just like a code in the association's drawer, but reflect part of the lived practice and professionalism in the association? Furthermore, it remains to be asked whether dealing with the ethics guidelines is merely part of an announcement policy or whether possible persons seeking advice or affected persons receive information about what specifically, when and how, in which sequence, is being done to clarify the reported incident and to decide on possible consequences (sanctions?).

The interplay of statutes and ethical guidelines

By analyzing the ethics guidelines and statutes of various (body) psychotherapeutic institutes/associations, the following relevant distinctions can be filtered out:

- There are ethics guidelines that primarily list the underlying value orientation. In these institutes there are ethics commissions, whereby no further, specific information is given on the role and function within the institute. Nor are any structures of procedure or rules of procedure established. *(primarily announcement policy)*
- There are institutes that define ethical guidelines, but refer to a superordinate umbrella organization in terms of their application/implementation (these are, for example, EABP, DVG, etc.) These are usually small institutes with relatively few members. One therefore refers to a superordinate umbrella organization, especially since one is interwoven within one's own institute through very different relationships and roles. This would impede the necessary independence of the ethics officer and the ethics committee *(Mixed roles, lack of independence).*
- There are institutes with ethics guidelines and conditions of execution and implementation, some of which contain contradictory statements. This can lead to irritations, conflicts of interest, and role conflicts when the respective statutes and ethics guidelines are carefully reviewed *(Role and conflict of interest).*

- There are training institutes with ethics guidelines, with differentiated descriptions of the conditions of execution and implementation, but limited to the consideration of the individual behavior of individual psychotherapeutic colleagues. A possible ethical violation by a committee of the association or members of a committee towards the association is not mentioned and/or regulated *(Structural intransparency*).
- There are institutes with ethics guidelines and conditions for application and implementation, but no specific body that, after the adoption of possible sanctions, looks at their implementation in such a way that the sanctions are actually implemented. If this is nevertheless addressed at some institutes, subtle conflicts of roles and interests emerge that are not clearly identifiable at first glance *(Treatment in good faith).*
- Finally, there are institutes with ethics guidelines, conditions of execution and implementation, as well as a clear differentiation of different committees, each of which has a specific mandate. Thus, these institutes have an ombudsman and/or ethics committee, an ethics advisory board, an arbitration committee and a body that ensures the correct administrative implementation of sanctions *(Ethically based and practically realized organizational practice*).

Example of successful structure and practice of ethics

I select two (psychoanalytical, depth-psychological) associations in order to emphasize the importance of different committees making it possible that in practice the implementation of ethics can be taken into account sufficiently and effectively, i.e. ethically meaningful. DPV and DPTV have many individual members and institutes as members. They have been in existence for many decades and continuously deal with ethical incidents. The size and history of the associations allow for an organizational structure that above all takes into account independence, discourse, and transparency. These aspects are of crucial importance in the application, enforcement, and review of ethics.

The German Psychoanalytic Association (DPV) has developed a differentiated concept of (psychoanalytic) professional ethics. This approach is comparable to that of other psychotherapeutic organizations.

In addition to the statutes, the DPV defines the ethical principles in a differentiated way. A similar procedure can be found e.g. with the DPTV (German Psychotherapists Association). A much larger part of the provisions deals with the committees and procedures that are established to regulate ethical complaints and incidents. For example, the DPV:

- A permanent forum on questions of ethics
- An Ethics Committee
- An Ethics Board
- A committee of inquiry

It is not only important for psychoanalysts to recognize and work on ethical cases, but also the DPV is also interested in remaining in constant exchange about ethics and its application and implementation within the institutes and the association. The collegial discussions on this must be maintained and developed further. Relevant events are organized through the permanent forum. It is exempt from further administrative tasks; in this respect it is an independent body. The permanent forum strives to keep the discussion about ethics alive in the organization and in the circle of colleagues. In this respect, it has a (ethics) culture-shaping function.

The ethics committee itself deals not only with complaints from training participants, clients and colleagues, but also with those from and about institutes. The ethics committee itself handles the respective cases, documents everything and, if necessary, determines possible sanctions. It informs the Ethics Council of this process. The Ethics Council is responsible for the implementation of these sanctions and not the board of the association or institute. It should be emphasized that the Ethics Committee adopts concrete rules of procedure that are transparent for everyone, both for those in the institute/association and online via the website.

The Ethics Council implements the results of the Ethics Committee, as mentioned above, but can also independently go beyond the sanctions decided upon. The Ethics Council has also adopted rules of procedure that are transparent and form the basis of its own activities.

The investigative committee is only active through an administrative and judicial capacity. It is mandated by the Ethics Council. It cannot make any new decisions of its own. However, after examining the entire process, it can return it to the Ethics Council so that the latter can implement the recommendations of the Investigation Committee. It monitors the implementation of the sanctions and compliance with them.

A psychotherapeutic professional association such as the DPV has a large number of members and looks back on decades of tradition. In this respect, a division into different areas/bodies is not only sensible but also feasible. One thing that must be emphasized at this point is particularly important: the DPV makes a clear distinction between the determination of ethical guidelines, the treatment of specific cases by another body and finally the review by another body. All of these bodies have clear rules of procedure, so the analysis of incidents, the evaluation of incidents, the determination of possible sanctions and the review of their implementation are in separate hands. This is exactly what makes the principles: independence and transparency are fully respected. Mixing roles and conflicts of interest are thus effectively prevented.

Body Psychotherapy Associations seem more like a family-like association

Professional associations or training institutes in the field of Body Psychotherapy (BPT) are very small. Sometimes there are only 30-80 members. In this respect, an organizational structure such as that of the DPV is not possible. Most of the organizations have an ethics committee. However, there are significant differences with regard to a strict separation between determination of the ethics guidelines, treatment of possible cases by a special, independent committee that is not bound by any instructions and a reviewing committee. Even if a small organization has only one ethics committee, it should at least have an arbitration committee as far as the implementation of the trial results is concerned. In any case, ethics work must be strictly separated from the organization's traditional business operations. This requires careful coordination and differentiation between the statutes and ethics guidelines and the respective roles and functions. Due to the small number of members and the fact that most of the members are and have been related to each other in different roles, a small association cannot develop a differentiated structure as in the DVP and DPTV. On the one hand, it the necessity of such a distinction of responsibilities in the ethics guidelines is emphasized. On the other hand, application/implementation should be entrusted to another, independent person/organization concerned with ethics. This could be the involvement of a judge/legal counsel or this could be an organization dealing specifically with ethics issues (ethics association, etc.). The reference to this already in the ethics guidelines

seems to be necessary, so that possible affected persons know from the outset what is in store for them, what they can expect, and how the implementation of the ethics guidelines will be designed, especially in this small institute (principle of transparency and independence).

The German Society for Body Psychotherapy (DGK) has therefore decided to develop ethical guidelines. It has handed over the treatment of possible ethics cases as well as the development of possible sanctions to the superordinate organization (European Association of Body-Psychotherapy - EABP). Small institutes that are members of the DGK can use this as a model if they themselves are not in a position to guarantee the separation of the committees and their independence as described above. They can then pass on responsibility to the umbrella organization DGK and/or EABP. The ethics guidelines of smaller institutes, which are organized in the DGK, are usually less differentiated and comprehensive, or they do not describe the concrete procedure and the presence of an arbitration commission.

Ethics and abuse of power

Ethical guidelines, which are referred to here, regulate the individual behavior of psychotherapeutic colleagues, be it towards the client/patient, his/her family, towards colleagues, the scientific field, and professional appearance in public. However, abuse of power or abuse by the organization, as an organization towards its members may, also constitute an ethical violation. Misuse of power, organizational abuse, or abuse of committees within an organization are neither usually mentioned nor specifically considered in the ethical guidelines. On closer examination of individual cases known to the author, the following organizational behavior patterns, among others, become apparent. This structurally, functionally and therefore also practically led to organizational irritation, conflict of interest and possibly to organizational abuse of power. Two typical behavioral patterns, which are fixed in the structure of the respective small organization, are as follows:

- Since abuse of power is not defined in detail in the ethical guidelines, there is no treatment of possible abuse of power. If abuse of power occurs, the respective organizations are helpless, blind, or (manipulatively) defensive. This can occur more in small organizations, especially since the members are related to each other in very different role relationships. Independence is then not given.
- If possible abuse of power is discussed or brought to the attention of the ethics committee, the organization is afraid to pursue such complaints (out of fear, rivalry, economic interests, etc.). Each one refers the matter to the courts or to higher professional associations or individualizes the possible abuse of power in order to invalidate, defuse, or even deny the complaint. Often the problem is postponed or delegated to an international organization of the respective therapeutic school. However, this organization then declares itself not to be responsible, so that a possible abuse of power cannot be treated adequately, professionally in the sense of the ethical guidelines.

Nevertheless, why, one might ask, is it so important and relevant to deal with ethics in an organization as an organization? (The film by Stephan Potting illustrates and comments on the topic of "abuse of power" in and by the organization using the example of psychoanalytic training in a forceful, impressive, and sobering way).

Some of the specific questions that arise from this are:

- Under what conditions is a (body-) psychotherapeutic organization able to align its decision-making processes with its own values and standards of responsibility, while at the same time taking into account an embedding in the psychotherapeutic

field, in a lived collegial and professional discourse?

- Can the organization have general values, thus the "common good" of clients and patients in mind, if at the same time money is earned through training and therapy?
- To what extent is a (body-)psychotherapeutic organization capable of learning from its own experiences, and if so, what does it need to foster such a process? How can the learning success be measured in concrete terms?
- Why does one organization succeed better than the other?
- How should organizational structures and practices be designed so that the ethical foundation can actually be implemented?
- How can one recognize that such transparency, independence, dialogue, separation of roles, trust, etc. are actually lived?

Management of ethics in and in relation to the organization

There are different management models to professionally manage the interplay of ethical principles and the development of a common lived understanding of the meaning of one's own organization to an essential basis of effective, responsible, and ethical work. To ensure this, the macro level is required. This means the political processes that allow one's own profession to influence socio-political discourse (legislation, professional associations, chamber of psychotherapists, etc.). At the micro level, it is about concrete action, about how (body-) psychotherapy is practiced, so that the action takes place in the sense of one's own ethical values that are relevant to the profession.

Finally, there is the mezzo level. This shows, among other things, the interaction of the individual units within an organization. This interplay is shaped horizontally and vertically. Horizontally it goes through self-regulation, mutual coordination, and appropriate decision-making. Vertically it goes through hierarchy, representation of interests as well as power and corresponding influence.

Relevance of decisions

The implementation of ethics within a body psychotherapeutic organization is thus an interplay of self-regulation (e.g. work of the ethics committee) and hierarchical influence (e.g. by the health insurance company, board of directors). Self-regulation and hierarchical action lead to decisions. The work of an ethics commission aims at deciding how to make the best possible decision in each individual case based on the ethics guidelines and consideration of the specific case. The further reference to and consideration of this decision within the organization forms an organizational decision-making process. This reflects the ensemble of opinion formation and representation of interests and the related decision within the organization. However, a decision can only be communicated meaningfully and effectively "if the rejected possibilities are also communicated, because otherwise it would not be understandable that it is a decision at all...This routine co-presentation of the rejected combined.... reduction of uncertainty with doubts about whether it was right" . If decisions are communicated in this way in the body psychotherapeutic organization, this has an influence on the concrete, acting persons who are involved in the treatment of a concrete, ethical incident, for example. On the other hand, this also enables the maintenance and stimulation of a discourse culture in the organization. After all, the organs and members of the association regularly and continuously deal with the pros and cons, the different perspectives, and the possibilities of competent and professional evaluation. If this is successful, structures, rules, and ethics can develop transparently. Such an approach also offers the

possibility to change, modify, specify, etc. the said structures, rules and the corresponding handling. This characterizes the process of dealing with ethics cases and the stimulation of an "ethics culture" in the organization.

Profit and non-profit organizations base their professional activities on specific, defined values, a vision and a mission derived from it. KPT organizations do the same. The reference to the underlying values represents a (hopefully) permanent process of internal discussion within the organization. A closer look at such processes shows that a meaningful, value-oriented, and effective discussion is ultimately only possible through reference to the organization as a power system. The preoccupation with power and possible abuse of power therefore implicitly has a primary meaning. After all, the interplay between value orientation, power interests and power relations as well as organizational implementation is often influenced and shaped by the behavior of those who embody the respective power.

Ethics as a method - back to the roots in philosophy

Ethics guidelines are usually understood as a fixed set of rules. One tries to follow this set of rules like a binding guideline. A precise inventory of the situation is made in the course of dealing with possible incidents. The acting and related persons are questioned in detail. This is followed by an assessment and evaluation of the situation. If necessary, there may then be consequences, possibly sanctions. However, the values on which the ethical guidelines are based, such as trust, etc., are (usually?) not further and/or specifically examined, questioned, and concretized situation-specifically or in relation to the context. However, the values on which they are based and the resulting ethical guidelines should be subjected to a constant (self) critical discourse within the organization.

After all, the ethical and "moral universe" is too complex for all problems to be solved by a master principle alone. "Rather, a flexible, ethical method is needed that solves our moral problems by recourse to practical wisdom". This is in contrast to the categorical imperative of Immanuel Kant. According to Gordon, ethics must also be understood as thinking about questions of the "good life" (ethics). Consequently, ethics can never be seen without the aspect of "ethics as a method". This makes it possible "then to select the right aspect for the respective situation as determining under the essential aspects of morality. Even if there is the danger, which could be introduced by critics, that the selection itself could be arbitrary, the advantage of the ethical method is obvious as far as it takes into account the diversity of perspectives as well as the particularities of the respective context. Ethics must include such a perspective and approach in a transparent manner and provide solid justification for it.

Gordon refers, among others, to Aristotle, who concludes in the field of ethics that there can be no strict proofs, that instead we are "thrown back on having to be satisfied with plausibility arguments - i.e. within the framework of a rational discourse (without, however, being at the mercy of arbitrariness. So there is, as Aristotle can be interpreted at this point, only the possibility - because of the indeterminacy of the matter - to choose a variable measure of judgement." Gordon emphasizes that ethics, as a method certainly does not entail arbitrary action, since the ethical method as practice-oriented ethics is practiced by the following goals as appropriate to ethics, morality, and specific situation. These goals include practical relevance, interdisciplinarity, orientation function, educational function and structuring function and auditability. The latter is the developmental aspect of ethics. The ethical method thus causes ethical progress. The ethical guidelines and the practice-oriented ethics are thus two areas that cannot be separated from each other.

Instead, they function as a continuum and in the quality of their interplay.

Conflict of Interests

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Clinical Narratives: Bridging the Gap between Medical Texts and Clinical Practice

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Theoretical Study

Abstract

Reading medical texts is always a serious challenge for medical students because they are expected to be able to apply it in clinical practice. Studies show that medical students fail to use the content of medical texts in clinical practice. In many cases, this failure is attributed to incomplete or incorrect learning of the contents of the books, and the lack of a suitable guide for better and more effective reading of medical resources. The question addressed in this article is how medical texts should be read in order to be used in daily clinical practice. This article will be divided into two parts. In the first part, an attempt is made to address theoretical foundations based on illness script theory. In the second part, by quoting a part of a medical reference book, we try to show how medical texts can be read effectively.

Keywords: Illness script theory; Clinical narrative; Clinical practice; Medical text; Medical students

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Introduction

Reading medical texts is always a serious challenge for medical students because they are expected to be able to apply them in clinical practice. Studies show that medical students fail to use the content of medical texts in clinical practice (Schmidt & Rikers, 2007; Norman, 2005). In many cases, this failure is attributed to incomplete or incorrect learning of the content of the books and the lack of a suitable guide for better and more effective reading of medical resources. In other words, the question we are trying to answer in this article is how medical texts should be read in order to be used in daily clinical practice. This article will be divided into two parts. In the first part, an attempt is made to address the theoretical foundations, and in the second part, by quoting a part of a medical reference book, we try to show how medical texts can be read effectively.

Section One

The Importance of Narration in Medical Expertise: To answer this question, we need to pay attention to a special ability in expert physicians. Because of extensive clinical exposure, expert doctors can tell the story of a patient (clinical scenario) (Montgomery, 2006). This narrative skill in physicians is related to their mental structures. In the minds of doctors, there are illness scripts that have a story-like structure. By seeing each patient, one or more of these records are activated, which is why skilled physicians have the ability to tell clinical stories without the need to memorize or take notes of all patient information. It is the processing of these disease histories that ultimately leads to the diagnosis and treatment of the patient. Therefore, students should try to create structures similar to biographies and expand them when reading medical texts (Monajemi, 2014).

The Difference between Clinical Narration and Pathophysiological Narration: Given the above, the appropriate and valid goal after reading a medical text should be to write the story of the patient (clinical scenario). Therefore, to narrate the clinical scenario, besides reading actual medical texts, students should understand the different sections of the disease history. However, before we explain the different components of the illness script, we need to distinguish between two types of narratives in medicine, clinical narratives and pathophysiological narratives. These two types of narration overlap in some aspects and have fundamental differences in some others, because one is based on causal relationships and the other on the clinical course.

The pathophysiological narrative answers the question of "*What has happened in the body?*", while in the clinical narrative, the question is "What is the patient's story and what should be done (i.e., diagnosis and management)?" (Pellegrino, 1979; Sadegh-Zadeh, 2015). Imagine a patient with cardiac heart failure (CHF). In the first narration, the cause of the patient's heart failure and its pathophysiological mechanism is narrated. In this story, the patient's myocardium is dysfunctional because of an extensive infarction, resulting in decreased ejection fraction and increased pulmonary blood pressure, which will cause both pulmonary edema and elevated jugular vein pressure as seen on examination. Moreover, the heart will expand that palpates the ventricular heave during examination and is evident in chest radiographs. This is why knowledge of the etiology and the pathophysiology of the disease is the glue that binds clinical manifestations together. In other words, by knowing the pathophysiology of the disease, we can explain the symptoms of heart failure. However, this narrative does not tell us how to deal with the patient and the

steps that must be taken for him upon admission. In other words, by knowing the pathophysiology of heart failure, we cannot determine what diagnostic and therapeutic measures to take. Research has shown that in many cases, speculation about diagnostic and therapeutic measures based on the pathophysiology and mechanism of the disease will lead to incorrect and sometimes unfortunate outcomes.

The logic of the pathological narrative is causal, in other words, from the beginning to the end of the narrative, each relationship in the narrative is causal. For example, when we say that in heart failure the pressure on the jugular vein is high, we must be able to explain it, and if we do not know the cause of the event, we must not bring it into our narrative. Hair loss in this patient is not relevant, since to the best of our pathophysiological knowledge, there is no link between hair loss and CHF. The pathophysiological narrative does not play a major role in clinical practice; however, it has a crucial role in the early stages of illness script formation. The only part of the pathophysiological narrative that comes to mind is the part that connects clinical signs and manifestations together (Monajemi & Rikers, 2011)

However, if there is no causal relationship in the clinical narrative, then the question is "On what basis is this narrative formed?" The clinical narrative is the story of the patient-doctor (i.e., clinical) encounter, the clinical manifestations of the disease, the doctor's diagnostic and management plans, and the patient's discharge. In other words, this narrative is based on actions that take place in a clinical setting (hospital or clinic) and is like the various scenes of a play (or different chapters of a novel) that must be screened in a specific and precise timeline to make sense. For example, in Hamlet's play, Hamlet's meeting with his father's soul must be performed before the battle between Hamlet and his uncle, and if we change the place of the two with each other, the whole play will be meaningless and nonsense. In clinical narrative, questions, examinations, and actions must be performed in a logical manner in order to have an effective and useful clinical narrative. In many cases, this is the reason why students' clinical scenarios do not work well.

Clinical narrative not only helps in clinical practice but also helps us to communicate with our colleagues, friends, and professors, ask them for advice and help, and defend our actions. Furthermore, clinical narratives are medical records that can be the basis of any legal proceeding (Table 1).

The Components of a Clinical Narrative: What are the components of a clinical narrative and how should it be narrated? The clinical narrative is similar to detective stories. Of course, the narrative is such that we hear less from detectives and more from criminals. The patient is essentially the same as a victim, and the disease as the murderer. The detective must find the traces of the killer at the scene of the crime and the victim's body (the signs and symptoms of the disease) and identify the murderer. The detectives' efforts to uncover the crime and catch the killer are similar to diagnostic and therapeutic measures, accurate and complete observation of the crime scene, finding key points, making accurate and correct guesses, and figuring out what to do.

The structure that has been created in our minds to deal with such situations is called the script, and in the case of diseases it is known as the "illness script".

Table 1. Clinical versus pathophysiological narratives

Item	Clinical narrative	Pathophysiological narrative
Narrative rationality	Storytelling	Cause and effect relationships
Guiding the narrative	Intervention	Explanation
Mental structure	Script	Causal network

Every experienced physician will use the present mental structures he/she already has in dealing with illnesses, and the development of these explanations requires both appropriate clinical knowledge (obtained by reading books) and clinical experience; that is, the knowledge gained in repeated clinical encounters must be put to the test so that the individual becomes more skilled and experienced each day. These narratives, like a story, have sections that are required for telling a good clinical scenario. One is the signs and symptoms; the beginning of each symptom, and their timing and order of occurrence are also crucial in telling the clinical story. The second is the underlying factors, i.e., factors that are not clinical signs and symptoms, but are involved in creating this situation (risk factors are in this category). The third is diagnostic workup, which includes imaging and laboratory tests, and finally, management plans to solve the patient's problem.

Section Two

Guide for Reading Medical Texts: To clarify the above, chapter 19 of Beckmann and Ling's textbook, which is an approved reference for obstetrics and gynecology for general medicine, has been selected to show how to read a medical text to apply in clinical practice.

Title: You want to read about ectopic pregnancy. After searching the book list, on page 412 of chapter 19 of the book, you will see the title of ectopic pregnancy and abortion. This means that the two diseases are similar in some way and, of course, different in other respects. Through these differences the two diagnoses should be differentiated from each other (because we know that in the end the patient has only one final diagnosis). In other words, in the initial clinical manifestations, several diagnoses are imagined for the patient (differential diagnoses), which eventually lead to a final diagnosis through diagnostic and therapeutic measures. Therefore, when you study a disease, be sure to look closely at its differential diagnosis. In some books, each disease is described with its differential diagnoses in one chapter. Sometimes, two or more diseases are listed as their most important common feature. For example, in the same book, look at placenta previa and placental abruption that are both explained in one chapter (chapter 16, under the heading of third trimester bleeding). If the differential diagnoses are not clear in the title of the chapters, you can find them in the text where the differential diagnosis is made. On page 416 of the book, in the section on differential diagnoses of ectopic pregnancy, the complications of early pregnancy (threatened, incomplete, or missed abortion), placental polyp, and hemorrhagic corpus luteal cyst are mentioned.

As for diagnosing each patient, it is necessary to work with a list of differential diagnoses; it is a good idea to study these diseases along with ectopic pregnancy, or at least the most important or common ones. Therefore, be sure to find the nearest differential diagnoses to any disease you are studying and read them at the same time.

Introduction: Usually at the beginning of each topic there is an introduction to the disease in which the definition, classification, etiology, mechanism, importance, and epidemiology are discussed. Evidently, without knowing the definition of the disease and the like, it is pointless to continue the discussion. Some of the material in this section may not be directly related to medicine, but it connects the other sections to each other. However, some parts are completely related to clinical practice that has usually been overlooked. For example, on page 412, it is stated that 1.5% of pregnancies in the United States are ectopic pregnancies. This percentage becomes

important when you compare it to the prevalence of other diseases that have been misdiagnosed as pregnancy. Imagine, for example, that the three diseases A, B, and C are also differential diagnoses and have many common symptoms. If these three diseases are seen in 7%, 27%, and 0.2% of pregnancies, respectively, and a person refers with those signs and symptoms, which do you suspect first? Obviously, disease B, and this is effective in the process of your actions in medicine. However, it is not just the prevalence that matters. On page 413, it is stated that although new diagnostic methods have reduced the risks of ectopic pregnancies, the disease remains a major cause of death and complication (in the United States). Therefore, despite its relatively low prevalence, its diagnosis and treatment are very important. Thus, in the introduction, in addition to the general aspects, pay attention to the epidemiology (and statistics related to the epidemiology) that is directly relevant to medicine.

Risk factors: Risk factors can be used in medicine for at least two purposes, diagnosis and patient education. On page 414, it is mentioned that the risk of ectopic pregnancy after tubal ligation is rare; however, in any pregnancy the possibility of ectopic pregnancy must be considered. This means that if a person with a history of tubal ligation complains of amenorrhea and vaginal bleeding, they are more likely to have an ectopic pregnancy than when a person without a history of tubal ligation has the same complaints.

In other words, the pretest probability of ectopic pregnancy is higher in the first case than in the second case. Factors such as prior ectopic pregnancy, smoking, and a history of tubal surgery have also been identified as risk factors. Thus, if a pregnant woman who smokes is diagnosed with an ectopic pregnancy, it is important to understand the effect of these two factors on the likelihood of ectopic pregnancy in subsequent pregnancies and the possibility of preventing it. Therefore, always pay attention to the risk factors. Nevertheless, always keep in mind that almost none of the patients have all the risk factors and many have no risk factors.

Clinical manifestations: People refer with symptoms, not the illness. In most textbooks, the contents are written under a heading. However, keep in mind that patients refer with complaints, not the actual illness. For example, one person complains of nausea, another person complains of a lesion on the skin of the left arm, and another person complains of a decrease in platelet count on a screening test. Therefore, when you read a chapter of a disease, you should pay special attention to the signs and symptoms of that disease. On page 414, tubal ectopic pregnancy symptoms include amenorrhea, vaginal bleeding, abdominal pain, normal pregnancy symptoms (including breast tenderness, nausea, and frequent urination), symptoms of ruptured ectopic pregnancy (including shoulder pain that intensifies with breathing, dizziness, and syncope), and passing the decidual cast.

Now imagine sitting in a clinic. A woman complains of amenorrhea in the last two months and vaginal bleeding in the previous two days. Does this person have an ectopic pregnancy? In answer to this question, we must remember that any sign or symptom is seen in several other diseases as well and is not specific to one disease. Therefore, in answer to this question, we need to think about other situations in which there is secondary amenorrhea. Note that many of the signs or symptoms are common among a large number of diseases. Let us go back to the example given above; amenorrhea has been reported for the previous 2 months. There are several differential diagnoses for secondary amenorrhea. Obviously, it is completely unreasonable to examine a person for all these diseases. What should we do? It is best

to turn secondary amenorrhea into a combination that includes fewer diseases. Doing so requires both knowledge and experience. In other words, think of a *clinical tableau* instead of a main complaint. Let us go back to ectopic pregnancy and threatened abortion. We showed signs and symptoms of ectopic pregnancy. Signs and symptoms of a threatened abortion (p. 430) include bleeding in the first trimester of pregnancy, lower abdominal cramping pain, low back pain, and pelvic pressure sensation. What do they have in common? They have amenorrhea (pregnancy), vaginal bleeding, and abdominal pain in common. This means that if a person presents with amenorrhea (pregnancy) and vaginal bleeding and/or abdominal pain, we must consider the threat of abortion and ectopic pregnancy.

Therefore, in abortion and ectopic pregnancy, consider this clinical tableau. Therefore, when the patient complains of amenorrhea for two months and vaginal bleeding for two days, we do not start with the diagnosis of secondary amenorrhea, but according to what we have read, the first thing to do is to confirm or rule out pregnancy. If pregnancy is confirmed, we should consider distinguishing between clinical signs of amenorrhea (pregnancy) and vaginal bleeding. The next step is to think about the factors that differentiate these close diagnoses. Now, in the text, you should look for the answer to the question of how to differentiate between the diagnoses of a clinical tableau. The text on pages 416 to 418 describes how to differentiate ectopic pregnancy from abortion using ultrasound and serial measurement of the serum level of βhCG. Consider these differentiating factors.

Diagnosis: Note that it is not always possible to use the best diagnostic methods. For this reason, in addition to the methods known as the gold standard, we must be aware of other diagnostic methods and their sensitivity, specificity, and positive and negative predictive value. For example, if we were working in a place where it was not possible to determine the serum level of βhCG, could urine βhCG measurement kits be used? (Page 416). When reading, you need to learn about the availability and cost of different diagnostic methods from other sources.

Treatment: You need to know the different treatment methods available and be able to explain them to the patient to help him/her choose the right treatment. When you read the treatment of ectopic pregnancy (pages 422 to 425), you will find that you can use pharmacotherapy (methotrexate and mifepristone) and surgery (linear salpingectomy, segmental resection, or salpingectomy) to treat ectopic pregnancy. It is obvious that neither prescribing methotrexate nor performing surgery are a part of the duties of general practitioners. As a result, knowing everything is not equally important and you must know how to prioritize. For example, it is very important for you and your patient to know that the probability of successful medical treatment is lower if the size of the ectopic pregnancy is more than 3.5 cm or if the fetal heart rate is present. You have to explain to patients that if the serum level of βhCG is less than 5000 IU/L, the probability of successful medical treatment is 92%, and if it is higher than 15000 IU/L, it is 68%. It is important to know these numbers and convey their meaning to the patient in clinical practice, and you should be careful when reading the text. You will also need to have information about the accessibility and efficiency of various treatment modalities while studying.

Final words

As stated at the beginning of the discussion, the most important goal in reading the text of reference books is to use it in medicine, and the best way, as explained, is to make a clinical narrative. After reading about a disease and its differential diagnoses, write down a few scenarios about it, and show the main complaints and the process with which you

Table 2. Key points that should be kept in mind when reading

Key points
When studying any disease, find the differential diagnoses closest to that disease and study them (at least the most common and important ones) at the same time.
In the introduction, look at the epidemiology of the disease (and related numbers) that are directly relevant to medicine.
Consider the risk factors. They can be used in at least two instances. At the time of diagnosis and at the time of patient education. In diagnosing the disease, always keep in mind that almost none of the patients have all the risk factors and many do not have any risk factors.
Try to find a clinical tableau for this set of signs and symptoms and figure out how to differentiate between those differential diagnoses.
In addition to the gold standard diagnostic method, you need to know about the diagnostic value, accessibility, and cost of other diagnostic methods.
You need to know the different treatment methods available and their accessibility and cost and be able to explain them to the patient to help her/him choose the most suitable treatment.

managed the patient. In writing these scenarios, use different people (person without/with insurance, man/woman, and old/young) and different referral centers (rural health center, suburban clinic, university hospital clinic, etc.), and see what difference is made in the patient's management. Sometimes the answers to these questions are not in the book you are reading, and you will need the help of other sources and your professors to answer your questions. Try to practice regularly! Tell yourself, if the patient complains about A and I can only ask five questions, what are those questions? If the patient complains of A and B and I see C and D on examination, and I can only request one paraclinical procedure, what would that be? Applying these tips may seem very time-consuming at first and may slow down your reading, but after a while you will see the effect of this method on better understanding how professors interact with patients and further mastery (Table 2).

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Developing and Studying the Effectiveness of Bioenergy Economy Program in Body Self-concept and Weight Loss of Women with Obesity

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Quantitative Study

Abstract

Background: Unusual accumulation of fat in the body is called overweight or obesity, which can affect health. This study was conducted with the aim to develop a bioenergy economy program and investigate its effectiveness on body self-concept and weight loss of women with obesity.

Methods: The methodology used was a quasi-experimental design with pretest and posttest, and a control group. The statistical population included obese individuals referred to psychological counseling centers and nutrition clinics in Tehran, Iran, during 2019. Using convenience sampling, 50 obese women were selected and randomly assigned to 2 experimental groups and a control group. Data were collected using Cash's Multidimensional Body-Self Relations Questionnaire (MBSRQ). Then, the weight and body mass index (BMI) of the participants were calculated. According to guidelines for the bio-economics protocol developed at the Energy Medicine University in California, USA, a specific training package was developed for obesity and the intervention group was trained in 8 sessions of 120 minutes for 8 weeks. Data were analyzed using the analysis of covariance (ANCOVA) in SPSS software.

Results: The results showed that the effect of bioenergy economics was significant on the attitude towards body image ($P < 0.01$).

Conclusion: To conclude, a bioenergy economy program can be an effective program on body self-concept. Considering the effect of this therapeutic approach on body self-concept and assuming the effects that may occur as a result of changes in this perception, it seems that this new intervention will have a positive effect on the weight control process over time. It is possible that the effect of this treatment on weight loss can also be seen by following this variable in the future.

Keywords: Obesity; Body image; Weight loss

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Introduction

Obesity and overweight are the result of the body's tendency to store energy in the form of fat and complex interactions between the environment, genetic factors, and human behaviour. Obesity is defined as a disorder of the body composition in the form of a relative or absolute increase in body fat storage. The rates of mortality and morbidity increase with increase in the body mass index (BMI). Currently, one of the most commonly used criteria for the diagnosis of overweight and obesity is BMI, which is obtained through dividing body weight (kg) by height squared (square meters). BMI is a statistical measure for comparing one's weight and height. In this method, the amount of obesity is not measured, but weight health is estimated according to height (James, 2008; Jensen et al., 2014). According to the World Health Organization (WHO), overweight is defined as a BMI of equal to or more than 25 and obesity as a BMI of equal to or more than 30 (World Health Organization, 2020).

The prevalence of obesity doubled worldwide between 1980 and 2008, with a higher prevalence of obesity among women than men, and this trend is increasing worldwide. Overweight and obesity have increased by 20%, on average, among women in the age group of 15-49 years in all regions of the world and among both the rich and poor (World Health Organization, 2020). In Iran, the prevalence of obesity was previously estimated to be higher among women (14%) than men (10.7%) (Rahmani, Sayehmiri, Asadollahi, Sarokhani, Islami, & Sarokhani, 2015).

Weight loss in medicine, health, and fitness is defined as a decrease in body size, which can be caused by disease or following obesity or overweight. Weight loss may be intentional and done for fitness purposes. Most people who are obese and overweight, are dissatisfied with their conditions and resort to different methods to lose weight, such as single diet, intake of diuretics, hydrotherapy, and strict diets not recommend by experts, which sometimes have dangerous side effects (Burke & Deakin, 2010).

People usually lose weight when they are unhappy and do not like their current conditions. In fact, dissatisfaction with the body is one of the most important causes of suffering for women of all ages and is itself caused by several factors (Grogan, 2016; Albertson, Neff, & Dill-Shackleford, 2015), one of which can be the effect of media and advertising. Many studies have confirmed that women who are more exposed to the media are more dissatisfied with their bodies (Albertson et al., 2015; Fardouly & Vartanian, 2016). This dissatisfaction is more common in obese women than others because media portray the ideal women as thin, and this affects women's mental image of themselves, their feelings, and attitudes toward themselves (Grabe, Ward & Hyde, 2008; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005).

There are many ways to treat obesity, including treatments such as diets, a variety of sports and medications, and psychological treatments. As the prevalence of obesity in the world cannot be explained by a specific cause or factor, it cannot be resolved by a single intervention. This epidemic requires the integration of all complex networks of factors such as politics, economics, the environment, social influences, behavior, and physiology (Hruby & Hu, 2015).

Bioenergy economics is one of the therapies that controls the mind and body and is based on energy. This approach has a systematic view of man and considers the human condition to be the result of the interaction between the physical, energy, spiritual, and mental systems within man. In this approach, health is the result of the interaction of these four systems in humans. The roots of the professional experiences of this approach are derived from the libido economics of Freud, Reich, Lyotard,

Deleuze and Guattari, biosemiotics of Leon, medical energy, semiotics of Pierce, systemic theory, histological therapies, especially methods based on mindfulness, physical phenomenology of Marlowe Ponti, and transpersonal psychology, as well as Eastern development traditions such as yoga, chi gong, and ricky, and most of all, rationalist psychology (Goli, 2010; Levold & Goli, 2017).

Recently, the effectiveness of bioenergy economics has been tested in various fields such as improving mood, reducing anxiety, and controlling pain in patients with migraine (Derakhshan, Manshaei, Afshar, & Goli, 2016), improving the signs and symptoms of tethered cord (Goli & Boroumand, 2016), treatment of autoimmune disorders such as ulcerative colitis and pemphigus (Goli, 2016), and improved sensitivity to anxiety and attention (Keyvanipour, Goli, Bigdeli, Boroumand, Rafienia, & Sabahi, 2019). There are also reports on improvement of educational performance and presence experience and awakening of teachers to their presence (Ahangar Ahmadi, Henning & Goli, 2017), attention bias modification (Keyvanipour, 2018), and symptoms and compassion for patients with chronic pain (Karimi, 2018) using this approach.

Due to the novelty of energy-based therapies in Iran and very little research in this field, no domestic research has been found that examines the effect of a bioenergy economic intervention on weight loss and obesity. Each of the biological (medical and nutritional) and psychological treatments may be effective alone as a short-term treatment for obesity. However, there seems to be a gap for a therapy that can examine a person in all dimensions of existence, including physical, feeling, emotional, and cognitive structures at a broader level. Research shows that using mixed methods that involve cognition, emotion regulation, directing attention, and awareness can have greater impact on weight loss and obesity treatment (Abdolkarimi, Ghorban Shirudi, Khalatbari, & Zarbakhsh, 2018).

Bioenergy economy is a very new intervention and has never been used to treat obesity. Therefore, it seems that because no research has been done in this regard in our country, it is a novelty in its kind. Because the disorder has intertwined biological, psychological, social, and cultural levels, it seems that bio-energy economy intervention can be effective in reducing the severity of symptoms, and increasing the efficiency of the individual and treatment of obesity. Bioenergy economy has a general protocol and this study will develop a special protocol to examine its effectiveness on body self-concept and weight loss in women with obesity. Based on the above explanations, this study was conducted with the aim to answer the question of whether or not the bioenergy economy program has an effect on body self-concept and weight loss in obese women.

Materials and Methods

This quasi-experimental research had a pretest-posttest design with a control group. The statistical population of the study included obese people referred to Tame Asrar Psychological Counselling Centre and Nutrition Clinic in Tehran, Iran, during spring and summer 2019. The inclusion criteria were women aged 15-49 years, a BMI of 30 or higher, and at least 1 year of weight stability. The exclusion criteria included chronic and acute psychosomatic illnesses, concomitant use of other therapies, being treated with medication, and absence from 2 sessions or more of the class.

For the comparison of the intervention and control groups, the sample size was calculated based on a 15% difference rate and considering a 5% error type I and a statistical power of 80; thus, 50 obese women were selected using convenience sampling method and assigned to the intervention and control groups. The choice of classes was based on age groups and level of education. The people in each class

were randomly assigned to either the intervention or control group. Eventually, the number of people in the intervention and control groups increased to 50. Because the study was one-way blinded, those who collected and analyzed the data were not aware of the subjects assigned to the intervention and control groups.

Individuals eligible for the study were 100 women who referred to the Tame Asrar Institute. Prior to the intervention, participants were asked to complete a demographic questionnaire and the Multidimensional Body-Self Relations Questionnaire (MBSRQ). Each participant's weight was determined and recorded using a scale. The intervention group received bioenergy economics intervention and the control group received no training or intervention. After the interventions, participants were again asked to complete the MBSRQ, and their weight was measured and recorded afterwards. After the posttest, the control group also received the bioenergy economy program. Then, the pretest and posttest were analyzed using multivariate analysis of covariance (MANCOVA) in SPSS software (version 24; IBM Corp, Armonk, NY, USA).

Ethical principles were observed in the process of conducting this research. Participants attended the meetings voluntarily with personal consent. They were assured of the lack of any danger and their status and well-being in the study was guaranteed. Before the intervention, participants were informed about the number, length, and content of the sessions and were asked to commit to attending the sessions. They were also notified that they could withdraw from the study whenever they wished and were assured that all their information would be kept confidential.

Multidimensional Body–Self Relations Questionnaire (MBSRQ): The first edition of the MBSRQ was developed in the form of a 294-item scale by Cash (1983). In subsequent editions, duplicate sections were removed and some sections were moved according to new criteria. Currently, it is a 69-item questionnaire that measures one's attitude toward different dimensions of the body image and has 68 phrases and 3 scales. These scales include the Body-Self Relations Questionnaire (BSRQ) measuring physical appearance, fitness, and health, each of which includes 2 areas of assessment and awareness (assessment of appearance and awareness of appearance, assessment of physical fitness, and awareness of physical fitness, assessment of health, and health awareness), the Body Areas Satisfaction Scale (BASS) evaluating satisfaction with different parts of the body (including face, upper torso, middle torso, and lower torso), muscle consistency, weight and height, and overall appearance, and the scale related to one's attitude toward weight evaluating preoccupation with overweight and weight assessment (Cash & Fleming, 2002). The items of the MBSRQ are graded on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Higher scores indicate greater satisfaction. The validity of the main parts of the questionnaire was examined and confirmed, with a reported reliability of 0.81 (Brown, Cash & Mikulka, 1990).

Treatment Process

According to the guidelines for the bioenergy economic protocol developed at the Energy Medicine University, California, USA, a specific training package was developed for obesity, and the intervention group was trained in 8 sessions of 120 minutes for 8 weeks. In the interval between classes during the week, the 2 intervention groups were asked to perform the exercises. Moreover, the summary of the educational materials in each class and the exercises of each session were presented to the class members in the forms of a CD and a written summary, respectively. A summary of the sessions is presented in table 1.

Table 1. Clinical versus pathophysiological narratives

Session	Focus	Objective	Activities
Session 1	Economy of body	Familiarity with the subject of the program and class members	The subject of obesity as a common problem (definition of obesity, causes of obesity, and complications of obesity) Emotional eating (definition, symptoms, etc.) The subject of obesity and overweight as an important issue in life Accepting the reality of obesity and overweight Psychological issues of the missing link between us and the goals of the diet Definition of bio-energy economy The role of self-compassion/self-efficacy/body self-concept in weight loss and obesity
Session 2	Economy of body	Familiarity with the concept of bioenergy economics	Definitions of economics: resources/needs, home planning: where is the home? Body awareness Definition of the cycle of thoughts-feelings-body Familiarity with emotions, body emotional map, and unhealthy emotion regulation strategies Feeling of insecurity in the body, body armor, and character armor Friendship and kindness with the body is necessary to solve the problem of obesity and overweight Relaxation exercises, breathing technique, and conscious eating exercises
Session 3	Economy of body	Review of life experiences and joys, lasting joys, and control key practice at the time of stress	Body-feeling-thinking cycle, emphasis on the body in the rupture of this chain Progressive relaxation training (PRT) feedback, weekly schedule presentation Experience of better quality, more pleasure in eating, substitution in pleasure of eating Practice of eating less, more pleasure Definition of internal bodily sensations, awareness of internal bodily sensations (ICA) Practice of eating with pleasure Practice of caressing and knowing and being kind to the body Hearing the sound of the body, the underlying feelings of hunger War and peace with the body (craving as an enemy or friend) The difference between satiety/hunger-satiety/fullness
Session 4	Economy of narration	Happiness stabilization and energy processing levels	Body in balance, isotension, body rhythm, concepts of work and load, and circumstances Vibration training Definition of values Need, demand, and pyramid of Maslow's needs (shortage/fundamental needs) Benefits of obesity (balance of benefits of obesity and weight loss), value-focused why, prioritization of values in weight loss Commitment to being obese Impulsive, reactionary, active, and conditional relaxation exercises
Session 5	Economy of narration	Careful guidance of attention	Definition of economy of narration Careful guidance of attention Internal/external guidance Life story Reflective meditation practice Practice of writing goals Body memory and barriers to happiness in the body, free energy flow in the body, energetic vibration exercises, and deployment exercises

Table 1. Clinical versus pathophysiological narratives (Continue)

Session	Focus	Objective	Activities
Session 6	Economy of relation	Relation	Rotation of attention from subject to the body My feeling, my relation, my limit Distance, angle, ratio My relationship with food/eating Middle way/love limit Body refinement practice Non-stereotyped practice for memories/worries/encounters in relation Positive no practice
Session 7	Economy of intention	Emphasis on body awareness; free flow of energy in the body and creation of peace, improvement of happiness with gratitude, remaining of gratitude, obstacles to gratitude for oneself and others and existence	Intentionality, approach, noise absorption (4 topics to consider) Obstacles to empowering intention, gratitude, surprise, forgiveness, donation Psychosomatic power and psychokinesis of intention Activation of intention power Relation with the transcendental realm Active imagination practice Boundless exercise
Session 8	Economy of intention/ conclusion	The way of love: kindness is with me	Heart, acceptance Hell machine Familiarity with consistency and the role of energetic system in mind-body coordination Energetic vibration exercises and deployment of consistency and manipulations Abandonment of intention

Result

Demographic characteristics of the participants are presented in table 2. According to data presented in table 2, most members of both the bioenergy economy experimental and control groups were married and high school graduates and undergraduates. Distribution of the above variables was almost equal in both groups.

As shown in table 3, the heights and ages of the participants ranged from 150 to 175 cm and 17 to 49 years, respectively, in the experimental and control groups. Distribution of the above variables was almost equal in both groups.

Table 2. Demographic characteristics by marital status and education of participants

Group	Variable		N	%
Bioenergy economy program	Marital status	Single	7	28
		Married	18	72
	Education	Up to high school diploma	10	40
		Undergraduate	9	36
		Postgraduate	5	20
		Ph.D.	1	4
Control	Marital status	Single	10	40
		Married	15	60
	Education	Up to high school diploma	9	36
		Undergraduate	5	20
		Postgraduate	9	36
		Ph.D.	2	8

Table 3. Demographic characteristics by the height and age of participants

Group	Height (cm)			Age (years)		
	Mean ± SD	Min	Max	Mean ± SD	Min	Max
Bioenergy economy	163.36 ± 5.72	153	175	31.52 ± 9.02	18	45
Control	161.4 ± 5.13	150	173	35.96 ± 9.17	17	47

SD: Standard deviation

Table 4 shows mean and standard deviation of the studied variables by the experimental and control groups in the pretest and posttest stages. In the posttest, the body self-concept scores and the total score increased almost in all components in both bioenergy economy and control groups (Table 4). Moreover, the posttest weight and BMI values of the participants decreased in both the experimental and control groups.

In this section, MANCOVA was used to examine the research questions. The assumption of analysis of covariance (ANCOVA): the normality of the data can be determined by the Kolmogorov-Smirnov test.

In table 5, the P values in the total score and components are greater than 0.05. Therefore, the body self-concept and weight loss variables have a normal distribution. It is also possible to examine the homogeneity of variance in the experimental groups using Levin test.

Table 4: Mean and standard deviation of body self-concept and weight loss

Group	Variable	Pretest	Posttest
		Mean ± SD	Mean ± SD
Bioenergy economy	Preoccupation with weight	3.40 ± 0.54	3.64 ± 0.57
	Mental weight	1.50 ± 0.43	1.86 ± 0.55
(N = 25)	Physical satisfaction	5.24 ± 1.96	6.88 ± 1.64
	Disease tendency	17.12 ± 3.87	19.76 ± 3.04
	Health orientation	23.84 ± 4.11	25.96 ± 3.74
	Health assessment	17.88 ± 2.87	20.08 ± 4.50
	Fitness orientation	40.12 ± 6.90	43.08 ± 6.75
	Fitness assessment	9.44 ± 2.20	9.92 ± 2.37
	Appearance orientation	43.52 ± 4.43	47.28 ± 4.43
	Appearance assessment	23.40 ± 3.10	24.52 ± 2.78
	Total score	185.46 ± 18.30	202.98 ± 14.70
Control	Preoccupation with weight	3.50 ± 0.38	3.46 ± 0.43
	Mental weight	1.48 ± 0.58	1.66 ± 0.60
(N = 25)	Physical satisfaction	6.00 ± 2.10	6.16 ± 1.28
	Disease orientation	16.40 ± 3.59	19.12 ± 3.24
	Health orientation	24.72 ± 4.53	24.84 ± 2.39
	Health assessment	17.00 ± 2.51	20.12 ± 4.34
	Fitness orientation	39.56 ± 7.71	42.2 ± 7.78
	Fitness assessment	8.68 ± 2.95	9.44 ± 1.85
	Appearance orientation	43.04 ± 5.37	43.72 ± 4.64
	Appearance assessment	23.24 ± 4.59	24.20 ± 2.85
	Total score	183.62 ± 22.24	194.92 ± 15.90
Bioenergy economy	Weight	89.73 ± 9.65	87.48 ± 8.95
(N = 25)	BMI	33.76 ± 3.72	32.88 ± 3.44
Control	Weight	89.32 ± 12.29	87.56 ± 11.7
(N = 25)	BMI	34.12 ± 4.00	33.40 ± 3.62

SD: Standard Deviation; BMI: Body mass index

Table 5. Normal distribution and significance levels of the body self-concept and weight loss variables based on the Kolmogorov-Smirnov test

Variable	Pretest	Posttest
Preoccupation with weight	0.2	0.2
Mental weight	0.2	0.2
Physical satisfaction	0.068	0.08
Disease tendency	0.2	0.2
Health orientation	0.2	0.052
Health assessment	0.076	0.41
Fitness orientation	0.168	0.2
Fitness assessment	0.059	0.051
Appearance orientation	0.2	0.195
Appearance assessment	0.2	0.2
Total score	0.078	0.2
Weight	0.2	0.2
BMI	0.058	0.169

BMI: Body mass index

The significance levels of greater than 0.05 for the total score and its components in the groups (Table 6) indicate the homogeneity of variance in the groups.

Based on the test results, the assumptions of ANCOVA were determined based on normality of data, significance, and homogeneity of variance. Therefore, MANCOVA was used to analyses the results.

According to the data presented in table 7, there is a significant relationship between the dependent variable (body self-concept) and the covariate (pretest) ($P < 0.01$); thus, the null hypothesis is rejected and the opposite hypothesis is confirmed. Among the components, body satisfaction ($P < 0.05$) and appearance orientation ($P< 0.001$) were significant. Therefore, the effectiveness of the bioenergy economy program on the improvement of the body self-concept was confirmed.

The results presented in table 8 show no significant relationship between the dependent variable (weight loss) and the covariate (pretest). Hence, the opposite hypothesis is rejected and the null hypothesis is confirmed, meaning that the bioenergy economy program was not effective on weight loss.

Table 6. Homogeneity of variance of the body self-concept and weight loss variables based on the Levin test

Variable	Pretest	Posttest
Preoccupation with weight	0.2	0.148
Mental weight	0.2	0.2
Physical satisfaction	0.2	0.2
Disease tendency	0.2	0.2
Health orientation	0.089	0.13
Health assessment	0.059	0.2
Fitness orientation	0.2	0.2
Fitness assessment	0.2	0.054
Appearance orientation	0.2	0.091
Appearance assessment	0.06	0.2
Total score	0.2	0.2
Weight	0.2	0.2
BMI	0.2	0.2

BMI: Body mass index

Table 7. Analysis of covariance for effectiveness of the bioenergy economy program on the body self-concept and its components

	Source of variation	df	Mean of squares	F	Sig.	η2
Preoccupation with weight	Pretest	1	0.43	1.679	0.201	0.034
	Group	1	0.494	1.927	0.172	0.039
	Error	47	0.256			
	Total	50				
Mental weight	Pretest	1	0.001	0.001	0.97	0.000
	Group	1	0.499	1.455	0.234	0.03
	Error	47	0.434			
	Total	50				
Body satisfaction	Pretest	1	21.095	11.959	0.001	0.203
	Group	1	11.295	4.403	0.015	0.12
	Error	47	1.764			
	Total	50				
Disease orientation	Pretest	1	215.906	39.136	0.000	0.454
	Group	1	0.663	0.12	0.73	0.003
	Error	47	5.517			
	Total	50				
Health orientation	Pretest	1	77.241	9.143	0.004	0.163
	Group	1	23.475	2.779	0.102	0.056
	Error	47	8.448			
	Total	50				
Health assessment	Pretest	1	54.501	2.891	0.096	0.058
	Group	1	1.821	0.097	0.757	0.002
	Error	47	18.851			
	Total	50				
Fitness orientation	Pretest	1	2025.972	182.461	0.000	0.795
	Group	1	1.833	0.165	0.686	0.004
	Error	47	11.104			
	Total	50				
Fitness assessment	Pretest	1	64.93	19.937	0.000	0.298
	Group	1	0.242	0.074	0.786	0.002
	Error	47	3.257			
	Total	50				
Appearance orientation	Pretest	1	609.374	75.23	0.000	0.615
	Group	1	128.714	15.89	0.000	0.253
	Error	47	8.1			
	Total	50				
Appearance assessment	Pretest	1	89.151	14.296	0.000	0.233
	Group	1	0.874	0.14	0.71	0.003
	Error	47	6.236			
	Total	50				
Total	Pretest	1	8294.116	131.621	0.000	0.737
	Group	1	589.173	9.35	0.004	0.166
	Error	47	63.015			
	Total	50				

df: Degree of freedom

Table 8. Analysis of covariance for effectiveness of the bioenergy economy program in weight loss

	Source of variation	df	Mean of squares	F	Sig.	η2
Weight	Pretest	1	4742.987	477.303	0.000	0.91
	Group	1	2.582	0.260	0.613	0.005
	Error	47	9.937			
	Total	50				
BMI	Pretest	1	515.197	280.813	0.000	0.857
	Group	1	0.55	0.3	0.587	0.006
	Error	47	1.835			
	Total	50				

df: Degree of freedom; BMI: Body mass index

Discussion

The findings suggest that the bioenergy economy program has a positive effect on improving the body self-concept. A probable explanation for this finding is that many of the successes and failures that people experience in life are closely related to their self-concept as an image of oneself and one's relationship with others. In other words, self-concept is an interpretation of one's inner world and one's relationship with others. The way people look at themselves and their co-workers is not inherent, but is shaped by people's interactions with society and their experiences throughout life, and can change over time (Purkey, 1988). Negative emotions, such as anger, guilt, and frustration, increase the urge to overeat in obese and overweight people. People's dissatisfaction with their body image under the influence of culture and peer group can lead to incorrect evaluations and negative thoughts and emotions in them, and provide the grounds for them to lose confidence. Under these circumstances, these people limit their social relationships and may even become isolated and anxious about their social interactions. Social isolation and distance from peers can cause them to become depressed and grow and expand their negative evaluations to such an extent that cause serious disorders and, as a result, damage their body self-concept.

Body dissatisfaction may be more prevalent in obese women than in others; media that portray ideal women as thin and accusation of obesity in society can have adverse effects on self-concept, self-efficacy, and self-compassion in obese women. Therefore, it seems necessary to perform more effective weight loss interventions to improve self-image among obese women (Derakhshan, Manshani, & Afshar, 2013). It seems that focusing only on weight loss is not effective on increasing the health and well-being of overweight and obese people; therefore, targeting psychological processes in this regard helps to improve the conditions of these people. Most energy medicine studies have focused on contact/non-contact manipulation and bioenergy-based evolutionary systems. However, the bioenergetics evolutionary response is not only the result of spatial bioenergy emission, but can also be facilitated and/or stimulated by biocycle modification, cognitive-behavioral interventions, and environmental modifications. There is no single life force or evolutionary energy; there are multiple energy systems in the living body and many ways to influence them. The state of life and health is the result of the integrity of these systems that work together in interconnectedness and partnership, through which diseases and disorders disrupt the bio-energy flow. These concepts, combined with the findings of body-work,

bio-energy, and movement therapy, enable energy science to gain its rightful place in future medicine (Oschman, 1989).

Thus, bio-energy economy can provide a comprehensive and unique model for combining and applying different forms of energy-based therapies. In addition, it is considered a conventional theoretical and clinical foundation for holistic medicine. Bio-energy economy does not address the field of diagnostic classifications as it is not disease-oriented, but provides a combined and individual-centered approach that deals with the opening of energy pathways and bio-psychosocial balance. Thus, interventions of this approach are also conscious and intelligent guidance of the flow of matter-energy-information-knowledge in extra/intra/transpersonal spaces. The intra/inter/transpersonal levels of human beings are the physical self, equations of matter-energy homeostasis and the person as the body, intrapersonal self, and the individual as conscious and unconscious experiences, etheric self, organization of the biological field, and the individual as the vibrational system, the interpersonal self of the social world, and the individual as the behavior, and the transpersonal self, the world of free will, and the individual as a pure consciousness and the hidden order, the transpersonal self is the state of the unity of man-nature, in which consciousness is an individual and at the same time universal thing (Goli, 2010).

Bioenergy therapies are based on deep and effective communication and attention to transpersonal events; such a communication can have a profound psychological effect, and subsequently, immunological results. Moreover, clinical experiments with the bioenergy flow and its transference from the therapist can, similar to inductive and hypnotic effects, lead to the regulation of immunity, and thus, evolution of people. The direct effect of induced energy on cells, especially the nervous system, cannot improve mood and reduce anxiety. These changes in the mental system are based on the effects of 3 mechanisms, that is, cognitive-behavioral, inductive, and bioenergy factors, which can control and regulate the immune system and improve diseases (Goli, 2010).

As a care system, bioenergy economy programs strive to integrate the material-energy-information-awareness process at 4 levels, including the body economy, narrative economy, relation economy, and will economy. For this purpose, the techniques of working with the body, energy, mind, and psyche are used with a coherent approach (Goli, 2016). The body economy involves the knowledge of the mechanical body that goes beyond merely the physical body and includes not only the matter, but also energy, symbols, and reflexes. Balanced distribution of bioenergy in the body requires muscle economy to eliminate unnecessary cramps and muscle tone in the body. The result of body economy is the storage of mental and emotional capital in the body and the release of the body from the past and the future. Economy of narration focuses more on body care based on self-compassion and coordination of the bioenergetics process, and its goal is to organize the flow of information-energy in the symbolic body. Economy of relation focuses on the awareness of interpersonal contexts (Goli, 2018).

The present study findings also show that bioenergy economy has no effect on weight loss. In explanation, the goal of obesity treatment is to lose weight significantly and stay at a desired weight in order to reduce the risk of diseases and disorders caused by overweight. A weight loss of 5%-10% seems to be the first goal in the weight loss process from the perspective of many obesity therapists. The next step is to maintain a 10% weight loss successfully over a year. Studies have shown that about 21% of adults can maintain a 10% weight loss in a year, but fewer succeed in

the long run. There are several ways to treat obesity, including reducing energy intake in diet, physical activity and exercise, behavior change, medication, and surgery. The choice of treatment depends on the severity of obesity, the presence of comorbidities, weight loss therapies and their success rates in the past, and lifestyle.

Behavior modification is an important part of any obesity treatment program. The goal of behavior change strategies is to identify the stimuli that lead to unhealthy behavior, to prepare for the onset of behavior change, to continue healthy behavior, and to identify barriers that may prevent continuous healthy behavior. Goal setting, self-monitoring, attention to feedback, constant motivation, and support are important components of behavior change programs implemented in individual or group meetings. Success in changing eating pattern and physical activity depends more on persistence, support, and lifestyle changes than on a particular diet or exercise program. Furthermore, methods such as diet, lifestyle changes, psychotherapy, and medication have been very slow and unsuccessful in many patients with obesity and overweight. As a result, many people with fatal obesity turn to other and sometimes dangerous treatments, such as surgery. It seems that effective therapies for weight loss are those that have a multifaceted approach.

Energy-based evolution systems (energy-based therapies) are based on the belief that humans not only have a physical system and bio-chemical processes, but also an energy system, acting as an energy field that flows within and around us and interacts with the environment. These energy-based evolution systems include acupuncture, pressure therapy, Qigong, tai chi, aikido, yoga, polarization therapy, touch therapy, touch evolution, reiki, homeopathy, color/sound/light therapy, and prayer. A holistic approach to care and treatment, transplantation of the soul, mind, and body, relying on the inner evolution power of the human, a person-centered rather than disease-oriented approach to treatment, self-help and behavioral improvement to promote nature, connection with nature and emphasis on health care education, importance of quality of life (QOL) and spirituality, and emphasis on mental purification and evolutionary mind while learning knowledge and expertise are common among various methods of energy-based evolution (Goli, 2010).

Since the bioenergy economy program is a new approach and is being polished and corrected on the test page, this systemic approach needs to be re-evaluated over and over. Considering the effect of this therapeutic approach on the body self-concept and assuming the effects that may occur as a result of changes in this perception, it seems that this new intervention will have a positive effect on the weight control process over time, because a major weight loss requires a long-term procedure despite the limited time taken to do this research. It is possible that the effect of this treatment on weight loss can also be seen by following this variable in the future to justify the ineffectiveness of the bio-energy economy intervention on weight loss.

Conclusion

The bioenergy economics intervention can also be effective on weight loss through improvement of the body self-concept both directly and indirectly. Currently, medical science is moving from reductionist pathological strategies to holistic approaches that can encompass the various dimensions of human existence, a system-based and development approach that is able to integrate the mind and the body, self and other, and man and nature. To achieve single-dose and evolutionary medicine, the specific responses and reactions of each individual to the disease and

the stressors must be identified, and then, determined to help the individual as a human system find a way to overcome the stressors and treat the disease. In addition, to focus on the physical structure, genome, and chemistry of the body, medical knowledge that seeks to be sensitive to specific circumstances must also include knowledge of nature, mood, beliefs, self-expectations, life, and therapy. This knowledge helps the therapist to understand potential socio-psychological-biological responses.

It seems that many of the effects of energy approaches are based on the response to general relaxation and the underlying effects on mind-body conditions. These background (structural) effects are important both in techniques that use direct induction and physical, respiratory, and visual exercises, and in methods in which the patient is in a passive and receptive state. The connection between the evolver and evolved takes place under self-intrapersonal conditions and the flow of information-energy occurs in self-other relationships (behavioral-cognitive interventions), but the experience of evolution can expand to the field of bio-communication and the experience of presence at the transpersonal level. Regarding the intentionality of energy-based therapies, it can be claimed that intentions can be motivated from any level, but all levels are affected somehow by vibrating the intentional waves. The field of bio-field evolution focuses on conscious bio-fields, that is, intentions of evolution in the bio-field evolution process originate from the conscious mind and directly develop in the local/spatial or indirect vibratory body in the unconscious mind, and then, affect the vibratory body through a transpersonal level as a hidden order (non-spatial path) (Goli, 2010).

Conflict of Interests

Authors have no conflict of interests.

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The Effectiveness of Self-Differentiation Training on Cognitive Emotion Regulation and Psychosomatic Symptoms of Nurses

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Quantitative Study

Abstract

Background: Nurses are exposed to mental and physical illnesses due to burnout and high job stress and lack of adequate adaptation resources, and ultimately, reduced mental health. The aim of this study was to determine the effectiveness of self-differentiation training on psychosomatic symptoms and cognitive emotion regulation in nurses.

Methods: This quasi-experimental study was conducted with a pretest-posttest design and a control group. The study population consisted of nurses of Omid and Jamaran hospitals in Tehran, Iran. From among them, 36 nurses were selected based on Morgan's table using convenience sampling method and were randomly divided into two groups (experimental and control) of 18 individuals. The experimental group underwent 10 training sessions (once a week for 60 minutes) based on Bowen's system theory, during which time the group did not receive training. Screening for Somatic Symptom Disorders-7 (SOMS-7) questionnaire and Cognitive Emotion Regulation Questionnaire (CERQ) were administered in both groups before and after the training sessions. Data were analyzed using repeated measures analysis of variance (ANOVA) in SPSS software. The significance level of the tests was considered to be 0.05. This article is taken from a postdoctoral thesis in psychosomatic medicine and psychotherapy between Isfahan University of Medical Sciences, Iran, and Albert Ludwigs University of Freiburg, Germany. This article was approved under the ethical codex IR.MED.REC.1399.465 of the Isfahan University of Medical Sciences.

Results: The results showed that self-differentiation training was effective on psychosomatic symptoms and cognitive emotion regulation in nurses ($P < 0.001$).

Conclusion: It can be concluded that self-differentiation training was effective on psychosomatic symptoms and cognitive emotion regulation in nurses.

Keywords: Emotional regulation; Psychophysiologic disorders; Cognition

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Introduction

Nurses are the largest specialist community in the health care and education system; nurses constitute 80% of a hospital's overall staff, led by their health, which plays a crucial role in how medical services can be delivered (Khamisa, Oldenburg, Peltzer, & Ilic, 2015). In hospitals, the recruiting and retaining of staff is essential and vital, and recently it has come to managers' attention that the situation of nurses can increase the efficiency of hospitals. Moreover, not paying attention to the situation of nurses can lead to frustration and loss of work motivation, and can have a profound impact on the social and economic development of a country (Amayo and Foucault, 2015). Research has shown that nurses are exposed to mental and physical illnesses due to burnout, high job stress, lack of adequate adaptation resources, and ultimately, reduced mental health (Chernis, 2016).

Nurses experience physical and mental harm (Dickinson & Wright, 2008; Jaradat et al., 2012). High levels of work stress among nurses can lead to increased work-related injuries, late arrivals, and lack of training, resulting in lower productivity and accountability (Lee & Wang, 2002), which may affect nurses' professional performance, which in turn may reduce the quality of patient care (Kane, 2009; Kawano, 2008; Lindegard, Larsman, Hadzibajramovic, & Ahlborg, 2014). A previous study showed that Hungarian health care workers are faced with increasing strain, and emotional fatigue has been high among them (Pikó, 2006). A combination of stressful working conditions on the one hand, and psychosomatic symptoms (PSS) and musculoskeletal problems on the other has been documented in several studies.

In Indian hospital nurses who recorded high self-identified stress ratings, the incidence of psychosomatic disorders increased; in addition, stomach ache, back pain, and stiffness of the shoulders and neck were correlated with exposure to stressors at home and at work (Kane, 2009). A research on the prevalence of musculoskeletal complaints among nurses found that nurses had back complaints (36%), arm and neck complaints (30%), and leg complaints (16%); moreover, most nurses (89%) considered nursing work to be physically exhausting (Engels, van der Gulden, Senden, & van't Hof, 1996). Violante et al. (2004) reported a prevalence of 44% for back disorder among female nurses.

Emotional regulation skills consist of the ability to be aware of, recognize, and name emotions, interpret physical emotions related to emotion correctly, understand emotional arousal, actively adjust negative emotions to achieve better feelings, and accept negative emotions when necessary. Furthermore, adjustment skills include the individual's ability to deal with negative emotions (when negative emotions cannot be changed) instead of avoiding them in a state of distress and compassionate understanding (encouraging and calming oneself) to achieve important goals. It is emotional. Studies have shown that all of these skills are significantly associated with different indicators of mental health in the general and clinical population (Bamonti et al., 2019), and difficulty in emotional regulation can be the beginning of the onset of mental disorders (Balzarotti, Biassoni, Villani, Prunas, & Velotti, 2016).

Many strategies have been suggested for the improvement of psychosomatic symptoms and cognitive regulation of emotions among nurses, including self-differentiation training. Murray Bowen is one of the pioneers in family therapy whose studies in this field have led to the formation of an intellectual framework on which many of the dominant currents of family therapy were later based (Lampis, 2016). His theory, called family systems theory, is one of the most widely used family therapy methods (Heintzelman, Murdock, Krycak, & Seay, 2014). The cornerstone of this theory is a concept called self-differentiation. Self-differentiation is a person's ability to maintain individuality and independence of "self" in close relationships with others and his/her

ability to balance reason and emotion (Ross & Murdock, 2014). In other words, differentiation can be examined at two levels, one as a process that occurs within the individual, which includes components of my position and emotional responsiveness, and the other as a process that occurs in interpersonal relationships, which includes a component. The term "my position" means a clear sense of "self" and independence of thought and belief (Paine, Jankowski, Sandage, 2016). Its logic and responsiveness are based on emotions. However, on an interpersonal level, both fusions refer to the loss of "self"-independence and dissolution and fusion in close relationships with others, especially important people in one's life. Feelings of threat and vulnerability in relationships and sometimes the tendency to adopt defensive behaviors such as distancing oneself, abrupt termination of relationships, and so on. What is of most importance is the relationship with others. In terms of the consequences of differentiation of individuals, Bowen hypothesizes that higher levels of their differentiation are associated with consequences such as higher levels of overall psychological and physiological function and that differentiated individuals have greater psychosomatic balance (Lampis, 2016). The results of numerous studies aimed at discovering and supporting the structure of "self-differentiation" are consistent with Bowen's theory. Therefore, the present research project examined the effectiveness of self-differentiation training on reducing psychosomatic complaints and promoting cognitive emotion regulation in nurses in order to form hypotheses for future researches.

Methods

The present quasi-experimental study was conducted using a pretest-posttest design and a control group in the late winter of 2018 at the Avista Counseling Center in Tehran, Iran. The study population consisted of nurses of Omid and Jamaran hospitals in Tehran (n = 177). From among them, 36 nurses were selected using convenience sampling method and were randomly divided into 2 groups (experimental and control) of 18 individuals. The inclusion criteria consisted of receiving a score of 14 and above in the Physical Health Questionnaire (PHQ), willingness to participate in the research, free time to participate in meetings continuously, and lack of attendance in any training courses and counseling during training. The exclusion criteria were absence from more than 2 sessions of treatment. For data collection, the PHQ, Screening for Somatic Symptom Disorders-7 (SOMS-7) questionnaire, and Cognitive Emotion Regulation Questionnaire (CERQ) were used.

Cognitive Emotion Regulation Questionnaire: The CERQ was developed by Garnefski et al. and includes 10 subscales (Garnefski et al., 2007). Each of the subscales of this questionnaire has 4 items. The higher the score of each subscale, the more the strategy is used by the individual. The total reliability of compatible and incompatible strategies was obtained to be 0.91 and 0.87, respectively, using Cronbach's alpha coefficient (Garnefski et al., 2007). In the Iranian culture, Besharat and Bazzazian (2015) evaluated the reliability of the test among a sample of students aged 15 to 25 years. They reported a Cronbach's alpha coefficient of 0.82 for its relationship with depression and anxiety (Besharat & Bazzazian, 2015). In the present study, the reliability of this questionnaire was found to be 0.80 and 0.79 using Cronbach's alpha.

Screening for Somatic Symptom Disorders-7 Questionnaire: The SOMS-7 is a 53-item questionnaire designed to evaluate medication results in patients with somatic symptom disorder. This tool addresses all facets of somatic symptoms and measures the symptoms/symptoms of patients in 7 days. Each sign/symptom was scored on a Likert scale ranging from 0 (lowest severity) to 4 (maximum severity). The SOMS-7 is a new scale displaying two different indexes, including signs/symptoms and severity

of somatic symptoms. These two indices distinguish patients with somatic symptom disorders from those who do not meet all of the criteria. Hiller et al. reported this questionnaire to be highly accurate and sensitive. Furthermore, Ebrahimi et al. (2018) evaluated the reliability and validity of this questionnaire through automated symptoms and clinical interviews and reported a 72-hour test-retest reliability of 0.85.

The method of conducting the research was that after obtaining permission from the hospital officials to conduct the research, there was a public call. After the volunteers were identified based on the study inclusion criteria, the objectives and method of implementation of the research were explained to the participants and their consent was obtained. The subjects were randomly assigned to experimental and control groups through lottery method, and both groups simultaneously answered the Psychosomatic Complaints Scale (Takata and Sakata, 2004) and CERQ (pretest). The experimental group received 10 training sessions once a week (60 minutes) according to the Young and Long protocol, and the control group did not receive any training. At the end of the training and 2 months later, both groups answered the questionnaires again (posttest and follow-up). The content of the self-differentiation training sessions is presented in table 1.

Table 1. Content of self-differentiation training

Session	Content of training sessions
1	Sociability and reference, clarifying the aims, regulations, and the number of meetings, administrating the pretest, presenting an outlook of future meetings and clarifying the subject, providing homework to do at home, evaluating reactions to the presented information
2	Defining differentiation, clarifying the vindication of manner based on wisdom and sensations, clarifying the connection between ongoing problems of life and differentiation, introducing differentiated and undifferentiated aspects, providing homework to do at home, evaluating reactions to the presented information
3	Clarifying the four components of differentiation, clarifying the relevance of every element of differentiation with excessive attachment and self-belief, explaining coping strategies, providing homework to do at home, evaluating reactions to the presented information
4	Clarifying the reasoning in the family tricuspid, teaching the effects of the tricuspid constructing on the ongoing problem and family relation, teaching the triangulation methods, providing homework to do at home, evaluating reactions to the presented information
5	Clarifying the family plan procedure, clarifying the ongoing family issue and effect of the plan procedure on it, negotiating the state of children, their personalities, and its relevance to the transition of the parents' differentiation, providing homework to do at home, evaluating reactions to the presented information
6	Surveying the impact of the family of the origin on the living environment, clarifying the relevance between ongoing issues and problems of life in the paternal home, intellectual and bodily reversal to father's house, reviewing and correcting learned patterns, providing homework to do at home, evaluating reactions to the presented information
7	Clarifying the constitution of several generational transition procedures and transition of the differentiation level to the next generations, the relation of several generational transition procedures, ongoing issues, and inhibiting methods, designing the trained plan
8	Clarifying the decoration of incorrect links formed in the original family, identifying the feeling aroused in people when they do not see their family members for one day, surveying the impact of the stage and manner of relationship with the members of the main family on their everyday lives
9	Explaining the awareness of their defense mechanisms and how they are transferred from previous generations, awareness of the contradiction between what they are and what they should be, explaining the types of defense mechanisms (e.g., repression, return, projection, intrusion, compensation, rebound, reverberation, and reverse reaction), investigating members' experience in the field of defense mechanisms and determining the most used defense mechanism
10	Aim: Finishing the course and summing up 1.Reviewing the previous sessions 2.Reviewing the lessons learned in these sessions 3.Receiving feedback from the members regarding their attitudes and feelings towards these training sessions 4.Appreciating the participants' active participation in the sessions

Table 2. Frequency distribution and demographic characteristics of participants

Demographic variables		Experimental group		Control group		P-value
		Frequency	Percentage	Frequency	Percentage	
Gender	Female	11	61.1	10	55.6	27.0
	Male	7	38.9	8	44.4	

In the descriptive statistics section, central indicators and dispersion, such as mean and standard deviation, were used. In the inferential statistics section, repeated measures analysis of variance (ANOVA) was used. To test the defaults of the inferential test, the Levin test (to check the homogeneity of variances), Kolmogorov-Smirnov test (to normalize the distribution of data), Mbox test, and Mauchly's sphericity test were used. To compare the two groups in terms of demographic variables (gender), chi-square test was used. The above statistical analyses were performed using SPSS software (version 22; IBM Corporation, Armonk, NY, USA). The significance level of the tests was considered to be 0.05.

Results

The mean (standard deviation) age of the participants in the experimental and control group was 38.94 (5.49) and 37.13 (6.55) years, respectively.

As shown in table 2, because the significance level is greater than 0.05, the two groups are the same in terms of gender distribution.

The mean and standard deviation of the studied variables are presented in table 3.

Repeated measures ANOVA was used to test the important differentiation between the psychosomatic symptom score and cognitive-emotional function in the experimental and control groups. The results of the M-box, Mauchly's sphericity, Kolmogorov-Smirnov, and Levin tests were tested before the repeated measures were analyzed for the assumptions. The findings of the Kolmogorov-Smirnov test have also shown how normal the data are believed. Since the M-box test was not significant for any of the research variables, the condition of homogeneity of variance-covariance matrices was correctly observed. Moreover, the non-significance of all of the variables in the Levin test approved the condition of equality of intergroup variances, and showed that the amount of variance of the dependent variable was equal in both groups. It was significant for the research variables, and therefore, the assumption of the equality of variances within the subjects (sphericity assumption) was observed (Mauchly's W = 0.83; df = 2; P < 0.05).

Table 3. Mean and standard deviation of variables

Variable	Group	Pretest Mean ± SD	Posttest Mean ± SD	Follow-up Mean ± SD
Psychosomatic symptoms	Experimental	10.35 ± 6.15	7.30 ± 4.31	7.90 ± 4.26
	Control	10.05 ± 6.13	9.90 ± 6.14	9.95 ± 6.13
Positive Cognitive Emotion Regulation	Experimental	30.90 ± 9.33	40.60 ± 11.75	41.35 ± 11.67
	Control	30.50 ± 8.23	31.20 ± 8.54	31.05 ± 8.35
Negative Cognitive Emotion Regulation	Experimental	39.93 ± 8.27	31.44 ± 6.85	32.79 ± 7.15
	Control	38.11 ± 8.41	39.53 ± 8.77	39.19 ± 8.94

SD: Standard deviation

The results of repeated measures ANOVA showed that the levels of significance of all tests were significant at the level of 0.0001, indicating a significant difference in the average of the tests in terms of the effectiveness of their differentiation training on improving research variables in the experimental and control groups. It is noteworthy that Wilks' Lambda test with a value of 0.07 and F = 204.09 showed a significant difference between the effectiveness scores of the differentiation training on improving the research variables in the experimental and control groups at a significance level of 0.0001. The repeated measures ANOVA results are presented in table 4.

The results presented in table 4 indicate that the repeated measures ANOVA is significant for the within-subjects effects (time) and between-subject effects. These results mean that regardless of the group effect, the time effect alone is significant. Group interaction and time are also significant. Bonferroni post hoc test was also used to compare pairs in groups.

Table 4. Comparison of the research variables using repeated measures analysis of variance in the pretest, posttest, and follow-up in the experimental and control groups

Variables	Source	SS	df	MS	F	P	Eta
Psychosomatic symptoms	Time	201.35	2	100.67	283.03	0.001	0.88
	Group * Time	133.61	2	66.80	187.82	0.001	0.83
	Error	27.03	68	0.35			
	Group	143.00	1	143.00	36.68	0.001	0.49
	Error	148.11	34	3.89			
Positive Cognitive Emotion Regulation	Time	188.06	2	155.34	162.42	0.001	0.81
	Group * Time	177.26	2	146.42	153.09	0.001	0.80
	Error	44.00	68	0.95			
	Group	685.00	1	685.00	64.56	0.001	0.63
	Error	387.25	34	10.19			
Negative Cognitive Emotion Regulation	Time	191.63	2	95.81	166.27	0.001	0.83
	Group * Time	126.51	2	63.28	109.77	0.001	0.76
	Error	39.18	68	.57			
	Group	267.59	1	267.59	4.93	0.033	0.12
	Error	1843.81	34	54.23			

SS: Sum of Squares; df: Degree of freedom; MS: Mean of Squares

Table 5. Results of Bonferroni post hoc test in comparison of research variables

Variable	Group	Steps	posttest	follow-up
Psychosomatic symptoms	Experimental	Pretest	3.05*	2.45*
		Posttest	-	-0.60
	Control	Pretest	0.10	0.13
		Posttest	-	0.09
Positive Cognitive Emotion Regulation	Experimental	Pretest	-9.70*	-8.45*
		Posttest	-	1.25
	Control	Pretest	0.11	0.07
		Posttest	-	0.09
Negative Cognitive Emotion Regulation	Experimental	Pretest	10.33*	9.18*
		Posttest	-	1.48
	Control	Pretest	0.19	0.13
		Posttest	-	0.44

The results presented in table 5 show that the score of the cognitive emotion regulation variable in the experimental group in the posttest stage is higher than the control group. However, the posttest score of the psychosomatic symptoms in the experimental group was lower than that in the control group. In other words, self-differentiation training has been highly effective in improving cognitive emotion regulation and psychosomatic symptoms. These results also show that psychosomatic symptoms and cognitive emotion regulation did not increase significantly in the experimental group compared to the control group.

Discussion

The findings of the present study showed that self-differentiation training is effective on psychosomatic symptoms and cognitive emotion regulation in nurses. The results of this study were in line with the findings of Jaradat, Nijem, Lien, Stigum, Bjertness, and Bast-Pettersen (2016).

A study in Iran showed that the Bowen theory should be realistic for the Iranian culture and that self-differentiation is in line with mental well-being and marital consistency (Yoosefi, Etemadi, Bahram, Bashlideh, & Shir-Bagi, 2010). Zarei, Farahbakhsh, and Esmaeili (2011) reported a significant relationship between self-differentiation, trust, and prudence. The principle of auto-differentiation, according to Bowen, can clarify this result. A more distinguished person will have a better sense of interaction with others. An individual with a strong sense of self has a strong identity, personal conviction and opinion, and a firm belief in what should be or should not be done based on his/her own experiences and reasoning in life (Bowen, 1978). Differentiated people have a good sense of themselves, sedated responses in emotional circumstances, and make decisions based on their confidence and intelligence (Ross & Murdock, 2014). They do not get feelings overloaded and can take I-positions. This means they are able to possess their thoughts and emotions and say what they believe without conforming or pleasing to others. Furthermore, differentiated individuals do not need to be emotionally isolated and be in a position to have relationships with acceptable borders (Alaedein, 2008).

In explaining this finding, we can say that according to Bowen (1978) low differentiation is the source of individual, family problems, and disorders in the

family system. It is a theoretical argument that high differentiation, to a large extent, people enjoy It becomes emotional intimacy, without individuals having to sacrifice their true selves (Alikhani, Geravand, Rashidi, Janjani, Zakiee, & Janjani, 2014). NG and Spark (1973) stated that people with low differentiation may experience high levels of confusion and conflict. High levels of self-differentiation lead to better psychological adjustment and the ability to solve social problems (Park & Park, 2017). Moreover, better-differentiated individuals can cope with stress. They have fewer physical and mental problems and are more satisfied with their relationships with others (Cabrera-Sanchez, & Friedlander, 2017). Differentiation is a clean emotional process. A person differentiated in dealing with life's problems and issues can deal with them rationally and logically and can avoid dealing with issues emotionally. Therefore, these people can solve problems peacefully. Thus, according to Bowen's theory, it can be said that nurses who have a low level of differentiation or are indistinguishable are less able to make rational decisions and act more emotionally in dealing with life issues and problems. Using constructive skills to solve problems, apply emotion and emotion, and control negative emotions and interaction with others plays an important role in reducing psychosomatic symptoms and improving cognitive emotion regulation (Lahav, Stein, & Solomon, 2016). In this training method, nurses' emotional reactions can be organized so that they can vent their emotions in such a way that does not disrupt the family hierarchy, and this training method can prevent emotional problems and provide reasonable and acceptable behaviors. Nurses find themselves in an unfavorable situation due to high stress, weakness, or the need for strength. Self-differentiation training helps to manage and resolve conflict logically in dealing appropriately with conflict and constructive communication. The present study, like any other research, has limitations, the expression of which can specify the findings and suggestions of the research and the next researchers in taking effective measures to deal with the threat of internal and external validity of research projects. To help. The first limitation was that the research results were limited to nurses. This study was conducted in a population of nurses in Omid and Jamaran hospitals in Tehran, and caution should be exercised in extending the results to other populations and regions and cities. It is suggested that this research be conducted in another sample group, and its results be evaluated and compared with the results of this research. It is suggested that this research be done in other cities, and its results be evaluated. It is suggested that this research be followed up as group counseling after individual training. Considering the effect of self-differentiation training on psychosomatic symptoms and cognitive emotion regulation in nurses, it is suggested that psychologists use solution-based training extensively in groups. Hospitals and the Organization of the Psychology and Counseling System, by implementing solution-oriented training workshops, can provide the grounds for psychologists, physicians, and nurses to become more familiar with the concepts of education and solution-oriented training.

Conclusion

According to the findings, it can be concluded that self-differentiation training was effective on psychosomatic symptoms and cognitive emotion regulation in nurses.

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Comparing the Effect of Acceptance and Commitment Therapy and Cognitive Behavioral Therapy on Dental Anxiety

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Quantitative Study

Abstract

Background: This study was aimed at the comparison of the effect of acceptance and commitment therapy (ACT) and cognitive behavioral therapy (CBT) on dental anxiety.
Methods: The present clinical trial was performed with a pretest-posttest design, a control group, and a 3-month follow-up period on patients with dental anxiety. The study participants were 48 patients who were selected through convenience sampling and randomly assigned to 2 experimental groups and one control group. The first experimental group received 10 weekly 90-minute sessions of ACT and the second group received 10 weekly 90-minute sessions of CBT. The control group received no intervention. The Dental Anxiety Inventory (DAI) was used to assess the dependent variable and Symptom Checklist-90-R (SCL-90-R) and a pulse oximeter were used as screening tools. Data were analyzed using repeated measures ANOVA in SPSS software.
Results: The results showed a significant difference between the experimental groups and the control group in terms of dental anxiety ($P < 0.01$). Furthermore, there was a significant difference in dental anxiety between the pretest, and follow-up and posttest ($P < 0.01$), but there was no significant difference between the posttest and follow-up ($P > 0.05$). Moreover, there was no significant difference between the ACT and CBT groups ($P > 0.05$), but there was a significant difference between the 2 treatment groups and the control group ($P < 0.05$).
Conclusion: ACT and CBT can be used to reduce dental anxiety, and thus, prevent treatment avoidance.
Keywords: Dental anxiety; Acceptance and commitment therapy; Cognitive behavioral therapy

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Introduction

In recent years, preventive medicine experts have seriously considered non-communicable diseases in addition to communicable diseases; it is believed that the prevention of major non-communicable diseases constitutes a major part of national programs in developed and developing countries (Murray & Lopez, 1990). Primary, secondary, and tertiary prevention are considered for most diseases. The practices related to primary prevention inhibit the occurrence of diseases in healthy people and decrease exposure to diseases before their incidence. In the secondary phase of prevention, the progression of the chronic or hidden disease to a severe state and increasing of deficiencies is prevented. Tertiary prevention is also used to prevent the incidence of severe complications and risks (Azizi, 2014).

Prevention is highly important in that it prevents the direct (diagnosis and treatment) and indirect (loss of efficiency and productivity due to disease) costs. Prevention in the oral health domain is much more important owing to the high costs of dental materials and services and it has priority over dental rehabilitation. Therefore, regular referrals to dentists and primary preventive dental visits have been extensively supported by professional beneficiaries (Baltaci, Baygin, Tuzuner, & Korkmaz, 2019; Bhaskar, McGraw, & Divaris, 2014). However, there are barriers in this regard including dental anxiety which is believed to be the most important one (Seligman, Hovey, Chacon, & Ollendick, 2017; Beaton, Freeman, & Humphris, 2014). Dental anxiety is described as anxiety or concern about the incidence of a threatening stimulus in dental treatments (Soares, Lima, de Barros, Dahllof, & Colares, 2017), which can be attributed to individuals' assumptions of the dangers and impairments caused by these treatments (Walsh, 2009). Researchers have described a cycle of avoidance of dental treatment by which people with dental anxiety avoid dental care, thereby leaving their oral health problems untreated and exacerbating their conditions (Vermaire, van Houtem, Ross, & Schuller, 2016). Poor oral health also causes embarrassment and dental treatment avoidance until the pain or symptoms become intolerable (Seligman et al., 2017). This anxiety is ranked fifth among the most common stressful situations (Rezwana et al., 2014), and its prevalence is higher in women than men (Saatchi, Abtahi, Mohammadi, Mirdamadi, & Binandeh, 2015). Hence, it is essential to mitigate dental anxiety in patients to prevent the risks of dental traumas and severe dental anxiety due to disrupted dental procedures.

There are various techniques for this purpose, including the use of sedatives and sleeping pills (Leitch & Macpherson, 2007), general anesthesia (Bennett, Kramer, & Bosack, 2015), behavior control techniques (Wang et al., 2012), and a combination of drug therapy and behavior control (Hmud & Walsh, 2008). Furthermore, the use of aromatherapy techniques has been reported to be effective in controlling anxiety in some cases (Kritsidima Newton, & Asimakopoulou, 2010). All methods mentioned above, although helpful in most cases, have disadvantages. For instance, behavior control methods and aromatherapy cannot be responsive to high levels of anxiety. Moreover, drug management of dental anxiety undoubtedly increases the success rate of treatments and improves their quality. However, drugs that cause respiration deficiency and vomiting reflex also have potential risks. Thus, the use of psychiatric medications seems to be helpful in such cases (Roberts, Curzon, Koch, & Martens, 2010).

A psychological therapy proposed for special phobias such as dental anxiety is cognitive behavioral therapy (CBT). CBT is one of the highly accepted forms of psychological therapies owing to strong empirical evidence for the improvement of anxiety disorders through exposure to situations, regular desensitization, inducing relaxation, and cognitive restructuring (Wide, Carlsson, Westin, & Hakeberg, 2013).

This treatment assists the patients in the diagnosis of their distorted models of thought and inefficient behaviors to prepare them for dealing with stressful situations such as dental situations. To change patients' distorted and inefficient thoughts, organized discussions and behavioral assignments are used, which can have positive effects on inefficient assumptions and beliefs about dental anxiety (Gumport, Williams, & Harvey,, 2015; Gavita, David, Bujoreanu, Tiba, & Ionutiu, 2012) and can help the patients to opt for regular dental referral and treatment follow-up (Manski, Hoffmann, & Rowthorn, 2015). Studies have shown that CBT can positively affect dental anxiety and fear (Shahnavaz, Hedman, Grindefjord, Reuterskiold, & Dahllof, 2016; Wide et al., 2013).

Another approach that may be effective on dental anxiety and fear is acceptance and commitment therapy (ACT). A modern CBT tries to boost functioning by increasing an individual's ability to remain active and act based on personal values (Hayes, Strosahl, & Wilson, 1999). Enhancing mindfulness and cognitive distancing (observation of thoughts), committing to active engagement in the external world, and making efforts to achieve a meaningful and original life in order to increase psychological flexibility can help people cope with stressful situations. ACT leads to psychological flexibility through 6 central processes, including acceptance, diffusion, self-as-context (SAC), present moment, values, and committed action (Hayes, 2016). Studies have indicated that ACT can lead to improved oral health behaviors (Wide, Hagman, Werner, & Hakeberg, 2018). Yet, the effect of this therapy on dental anxiety has not been investigated until now.

Hence, given the significance of prevention in the oral health domain, high costs of dental treatments, role of dental anxiety in irregular dental referral and adherence to treatment, empirical evidence in favor of the positive efficacy of CBT and ACT in improving dental anxiety, lack of studies on this subject in Iran, and absence of research on the comparison of the effect of these two treatments on dental anxiety, the present study was conducted to compare the effect of ACT and CBT on the symptoms of patients with dental anxiety with the aim to prevent avoidance of treatment.

Methods

This pretest-posttest, clinical trial, with a control group and 3-month follow-up, was conducted on patients with dental anxiety. This study (code: 84520709981007) was approved by the International Branch, Islamic Azad University, Khorramshahr, Persian Gulf, Iran, with ethical code IR.IAU.AHVAZ.REC.1398.005 from Ahvaz Branch, Islamic Azad University, Iran, and registered in the Iranian Registry Center of Clinical Trials (registration code: IRCT20190505043473N1).

The study population comprised all patients with dental anxiety in Isfahan, Iran, in 2019. Individuals with fear of dental interventions were invited to participate in the study via an announcement on the boards of psychiatric clinics. From among 84 volunteers, 48 participants were selected based on the inclusion criteria (16 participants in each group).

The inclusion criteria of the study consisted of willingness to participate in the intervention sessions, completion of an informed written consent, presence of dental anxiety according to Steward's Dental Anxiety Inventory (DAI) (Stouthard, Mellenbergh, & Hoogstraten, 1993), and reconfirmation of dental anxiety using a pulse oximeter (NOAMETRIX, U.S.A). For reconfirmation of dental anxiety, the patients took a rest for 5 minutes and their heart rate was measured by a dentist twice on a dental unit; those with an average increase of 5 pulses per minutes were included in the study. The other study inclusion criteria consisted of an age range of

19-50 years, minimum reading and writing ability, lack of any systemic diseases and congenital syndromes, lack of acute or chronic psychological disorders or anxiety disorders measured using the Symptom Checklist-90-R (SCL-90-R) (Prunas, Sarno, Preti, Madeddu, & Perugini, 2012), minimum physical and cognitive ability for participation in psychological interventions determined by a clinical psychologist in the primary psychological interview, minimum of 20 natural teeth and 1 treated tooth, lack of urgent dental treatment determined via a dentist's examination, and lack of any parallel psychological therapies and pharmaceutical treatments in the past 6 months. The exclusion criteria of the study were unwillingness to participate in the study and failure to attend more than 2 treatment sessions.

The participants were asked to attend a briefing session at the Dental Research Center of Isfahan University of Medical Sciences, Isfahan, following which the researcher randomly assigned them to 2 experimental groups and 1 control group through a draw. Then, the DAI was coded and distributed among the participants to complete as a pretest. The first experimental group underwent ACT in 10 weekly 90-minute sessions over 2 months and a half (Table 1).

Table 1. Acceptance and commitment therapy for dental anxiety

Session	Brief description
One	Greeting, introduction, instructions for group work and explanation of the type of therapy, overall assessment and explanation of the negative thoughts and feelings and concerns of treatment seekers, the nature and features of normal dental fear and anxiety, and therapeutic objective and commitment of therapists, and practicing concentration and introducing mindfulness, and practicing conscious breathing
Two	references in the past week, reviewing Practicing concentration, performance assessment of dental therapy avoidance models, efficacy and costs of this avoidance, observing dental anxiety instead of reaction to it through practicing acceptance of thoughts and emotions
Three	Practicing concentration, performance assessment, reviewing the reactions of the treatment seekers to former sessions, repracticing the acceptance of thoughts and emotions, introducing control as a problem and explaining whether the main problem is control or abandoning control is an alternative solution, presenting the metaphor of "challenging the dental anxiety monster", and assigning homework
Four	Practicing concentration, reviewing the acceptance of thoughts and emotions, practicing anxiety acceptance based on the knowledge through expression of the nature of acceptance and awareness, accepting anxiety and that acceptance is not a quick solution to anxiety, talking about controlling external events vs. controlling internal issues, assigning life promotion tasks as homework
Five	Practicing concentration, performance assessment, reviewing reactions to former vs. oneself as content, presenting the metaphor sessions, introducing oneself as context of "playing volleyball with thoughts and stressful emotions", presenting the metaphor of the "chess board" and the metaphor of the "radio of anxiety news", life compass as the final cause for exposure, analyzing the valuable paths sheet, assigning homework
Six	Practicing concentration, performance assessment, reviewing the reactions to former sessions, discussing emotional desires through attempts or actions along with pencil practice, presenting the parable of thermostat of desire and exposure to thoughts and intense emotions along with the metaphor of the "bus driver", assigning homework
Seven, eight, nine	Practicing concentration, performance assessment, reviewing the reactions to former sessions, normal value-oriented behavioral activation via behavioral activation, defusion and mindfulness techniques, knowledge of mental and verbal traps, empirical practice of life promotion, including practicing anxiety acceptance, life sensing exercises (internal and/or visualization exercises) or activities related to valuable life objectives, monitoring the experiences related to anxiety and fear, assigning homework
Ten	Practicing concentration, performance assessment, reviewing the reactions to former sessions, continuing the introduction of values, enhancing concentration on behavioral commitment, preparing the treatment seekers for the end of treatment, presenting a summary of treatment procedures, preparing for the recurrence of the problem and possible failures, identifying high-risk situations, asking the treatment seekers to implement these principles in their life, giving a summary of metaphors presented to the treatment seekers in a brochure and end of treatment

The second experimental group underwent CBT provided by an experienced therapist in 10 weekly 90-minute sessions over 2 months and a half (Table 2). The control group received no training. After the treatment sessions were completed, the experimental and control groups completed the DAI. Follow-up was performed and participants were invited and evaluated at the Dental Research Center of Isfahan University of Medical Sciences 3 months after the posttest.

Data analysis was carried out using descriptive statistics, including central and dispersion indices such as mean and standard deviation, and inferential statistics, including repeated-measures ANOVA, in SPSS software (version 22; IBM Corporation, Armonk, NY, USA).

In this study, a pulse oximeter and the SCL-90-R were used as screening tools and the DAI was used to evaluate the dependent variables (Eilenberg, Fink, Jensen, Rief, & Frostholm, 2016).

Table 2. Cognitive behavioral therapy for dental anxiety

Session	Brief description
One	Introducing the therapist and group members, creating a secure and reliable environment for the members and providing the grounds for group coherence and relationship (techniques: establishing rapport or therapeutic relationship, familiarity with the general rules of treatment, pretest components, familiarity with dental anxiety, assessment of therapeutic expectations, and assigning homework)
Two	Reviewing the homework of the former session, explaining the vicious cycle of dental anxiety, extensive analysis of the negative psychological, cognitive, and physiologic effects associated with dental anxiety, assessment of dental anxiety in the members, assigning homework
Three	Reviewing the homework of the former session, explaining the importance of thoughts and their role in inducing emotions, identifying the thoughts, identifying patients' negative spontaneous thoughts, analyzing common cognitive distortions during the occurrence of dental anxiety and distinguishing between thoughts and reality, explaining the importance of thoughts and their role in inducing emotions, presenting the three-component model of dentistry, presenting the therapy rational, assigning homework
Four	Reviewing the homework of the former session, finding the implications of thoughts, validating the negative thoughts and beliefs related to dental anxiety, presenting strategies for coping with negative thoughts related to dental anxiety, assigning homework
Five	Reviewing the homework of the former session, evaluating the quality of evidence, creating adaptable thoughts and beliefs, evaluating the adaptable thoughts, introducing exposure, investigating the instructions of exposure and its practice, assigning homework
Six	Reviewing the homework of the former session, teaching tensionless relaxation, practicing confrontation and imaginal exposure, assigning homework
Seven	Reviewing the homework of the former session, expressing anxiety changes in imaginal exposure, testing the indicators and analyzing the progress of patients, reviewing the negative memories related to dental situations, focusing on behavior rather than on emotions, assigning homework
Eight	Reviewing the homework of the former session, presenting the experiences of group members regarding their imaginal exposure, testing the remaining indicators, practicing imaginal exposure in group meetings, assigning homework
Nine	Reviewing the homework of the former session, sharing achievements and failures in imaginal exposure, emphasizing common topics and issues, in vivo exposure, assigning homework
Ten	Reviewing the homework of the former session, reviewing the progress of group members through a ranking from, expressing thoughts and emotions about the end of sessions, determining probable future barriers and problems in order to prevent the recurrence of dental anxiety

The Symptom Checklist-90-R: The SCL-90-R was first developed by Derogatis et al. (1973) and was then revised. The SCL-90-R is a psychometric self-measurement checklist. Respondents respond to 90 items based on a 5-point Likert scale. This scale consists of 9 dimensions, including somatization (12 items), obsessive-compulsive disorder (OCD) (10 items), interpersonal sensitivity (9 items), depression (13 items), anxiety (10 items), hostility (6 items), phobic anxiety (7 items), paranoid ideation (6 items), and psychoticism (10 items), and 7 extra items, some of which measure sleep disorders and sexual desire. The score of each subscale is the sum of the scores of the subscale items divided by the number of the subscale items. A mean score ≥ 1 and > 3 is interpreted as phobic states and psychotic states, respectively. It should be noted that in the depression subscale, a score > 3 shows severe depression and psychoticism. The internal consistency of this scale has been reported to be 0.78-0.90 (Prunas et al., 2012).

Dental Anxiety Inventory: The DAI was designed by Stouthard et al. (1993). It is a self-report questionnaire with 36 items about dental fear. The items are scored based on a 5-point Likert scale ranging from completely false (score: 1) to completely true (score: 5). The internal consistency of this scale was determined to be 0.96-0.96 using Cronbach's alpha. The test-retest reliability index of this scale was found to be between 0.84 and 0.87 in different groups. The DAI was translated into Persian and psychometrized by Yousefi and Piri (2017). In this study, the internal consistency of the DAI was determined as α = 0.94 using Cronbach's alpha and r = 0.94 using the split-half method, indicating a high reliability index. In the study by Stouthard et al. (1993), 130.5 respondents with a score of 23.6 were considered to have dental anxiety. Cronbach's alpha level for this questionnaire was calculated to be 0.71.

Results

The findings showed that most participants in the ACT, CBT, and control groups were within the age range of 20-30 years. Furthermore, most participants in the ACT group had a high school diploma, in the CBT group had primary education, high school diploma, bachelor's degree, and master's degree, and in the control group had a bachelor's degree. The descriptive indices of dental anxiety in the 3 study groups in the pretest, posttest, and follow-up stages are presented in table 3.

Table 3. Distribution and frequency percentage of age groups and education based on group membership

Variables		Acceptance and commitment therapy No (%)	Cognitive behavioral therapy No (%)	Control No (%)
Age groups (year)	20-30	6 (37.5)	6 (37.5)	6 (37.5)
	31-40	4 (25.0)	5 (31.25)	5 (31.25)
	41-50	6 (37.5)	5 (31.25)	5 (31.25)
	Total	16 (100.0)	16 (100.0)	16 (100.0)
Education	Primary education	3 (18.8)	4 (25.0)	2 (12.5)
	High school diploma	8 (50.0)	4 (25.0)	4 (25.0)
	Bachelor's degree	5 (31.3)	4 (25.0)	6 (37.5)
	Master's degree	0 (0.0)	4 (25.0)	4 (25.0)
	Total	16 (100.0)	16 (100.0)	16 (100.0)

Table 4. Descriptive statistics of dental anxiety for the experimental groups in the pretest, posttest, and follow-up

Variable	Source	Acceptance and commitment therapy	Cognitive behavioral therapy	Control
		Mean ± SD	Mean ± SD	Mean ± SD
Dental anxiety	Pretest	121.31 ± 10	126.12 ± 6.85	124.00 ± 13.10
	Posttest	89.18 ± 7.81	91.56 ± 4.88	125.56 ± 12.72
	Follow-up	87.93 ± 8.14	90.68 ± 5.16	125.93 ± 12.88

As shown, the mean scores of dental anxiety in the posttest and follow-up indicate greater improvement in the intervention groups than in the control group.

It is noteworthy that the results of Shapiro-Wilk, Levin, and Mauchly's tests were analyzed before running repeated measures ANOVA to consider the presumptions. The insignificant dental anxiety scores in the Shapiro-Wilk test ($P > 0.05$) showed that the data was normally distributed. Moreover, a lack of statistical significance in the dental anxiety scores in Levin's test showed that the between-group variances and dental anxiety error variance were equal in all groups. Finally, the results of Mauchly's test showed a significant difference in dental anxiety, so the assumption of the equality of variances within respondents was rejected.

The descriptive indices of dental anxiety for the 3 experimental groups in the pretest, posttest, and follow-up stages are presented in table 4. As indicated, the mean scores of dental anxiety were significantly higher in the posttest and follow-up in the experimental groups compared to the control group.

Table 5 shows the results of Wilkes' Lambda test in multivariate analysis of variance (MANOVA) for dental anxiety. As shown, the test factor was significant in terms of dental anxiety. Furthermore, there was a significant difference in dental anxiety between the pretest, posttest, and follow-up stages. Moreover, there was a significant difference between test interaction and group membership. In addition, dental anxiety showed a significant difference in group membership (ACT, CBT, and control groups) in the pretest, posttest, and follow-up stages.

The results of the Greenhouse-Geisser correction indicated a significant difference in dental anxiety between the pretest, posttest, and follow-up stages ($P < 0.01$), and 78% of this difference was due to the treatment method (either ACT or CBT), which was confirmed with 100% power (Table 6). Moreover, the results of the Greenhouse-Geisser correction showed that test and group (control and 2 experimental groups) have a significant interaction with dental anxiety ($P < 0.01$; df = 105.2; F = 048.50). Furthermore, there was a significant difference between the 2 experimental groups (ACT and CBT) and control group in the pretest, posttest, and follow-up, and 69% of this difference was due to the application of the treatment (either ACT or CBT), which was confirmed with 100% power.

Table 5. Results of multivariate analysis of variance for dental anxiety

Effect	Value	F	df	df	P-value
Test	0.215	306.80	2	44	0.001
Group-test interaction	0.305	868.17	4	88	0.001

Table 6. Results of repeated measures analysis of variance for intragroup factor and intragroup-intergroup interaction for dental anxiety

Source of effect	Test	Sum of squares	df	Mean square	F	P-value	Eta-squared	Test power
Test	Greenhouse-Geisser	389.11158	052.1	998.10603	528.159	0.0001	0.780	1.00
Test-group interaction	Greenhouse-Geisser	7001361.	105.2	753.3326	048.50	0.0001	0.690	1.00

Table 7 illustrates the results of one-way ANOVA for comparison of dental anxiety between the 2 experimental groups (ACT and CBT) and control group ($P < 0.01$). As indicated, there was a significant difference between the 2 experimental groups (ACT and CBT) and control group. The eta-squared value of the group factor was 0.692, and the test power was equal to 1. Moreover, the one-way ANOVA showed 69.2% significant difference between the experimental groups and control group, with 100% power.

The results of the Bonferroni test for dental anxiety in pair comparison of experimental groups (ACT and CBT) and control group in pretest, posttest, and follow-up are presented in table 8. As indicated, there was a significant difference in dental anxiety between the pretest, posttest, and follow-up ($P < 0.01$), but there was no significant difference between the posttest and follow-up ($P > 0.05$). Therefore, there was no significant difference between the ACT and CBT groups ($P > 0.05$), but there was a significant difference between the control group and the 2 treatment groups.

Discussion

This study compared the effect of ACT and CBT on the symptoms of patients with dental anxiety with the aim to prevent avoidance of treatment. The findings showed that ACT and CBT were able to decrease the symptoms of patients with dental anxiety, which was in line with the results of Wide et al. (2013) and Shahnavaz et al. (2016) concerning the effects of CBT on dental anxiety as well as the findings of Wide et al. (2018) regarding the impact of ACT on oral health behaviors.

As for the mechanism of effect of ACT on the symptoms of patients with dental anxiety based on the theoretical foundations, it can be argued that a basic principle in this treatment is achieving psychological flexibility (Tarkhan, 2017). During the ACT sessions, the patients were taught the concept of acceptance through metaphors, parables, and practices. Acceptance helped them to deal with the situations related to their problems (dental anxiety) more effectively, to increase their cognitive flexibility,

Table 7. Results of one-way analysis of variance for dental anxiety between the control group and the experimental groups

Source of effect	Test	Sum of squares	df	Mean square	F	P-value	Eta-squared
Group	264.21132	2	174.1680696	834.8044	0.0001	0.692	1.00
Error	229.9401	45	916.208				

Table 8. Results of the Bonferroni test for pair comparison of study groups in terms of dental anxiety

	Baseline	Time of comparison	Mean differences	Standard error	P-value
		Test factor			
	Pretest	Post-test	375.18	435.1	0.0001
	Posttest	Follow-up	958.18	495.1	0.0001
Psychological capital	Posttest	Follow-up	583.00	279.0	0.053
		Group membership			
	ACT	CBT	0.021	950.2	0.994
	ACT	Control	688.25	950.2	0.0001
	CBT	Control	708.25	950.2	0.0001

ACT: Acceptance and commitment therapy; CBT: Cognitive behavioral therapy

and to moderate their dental anxiety. They were also asked to identify the life values the achievement of which dental anxiety inhibited. Then, they were asked to set goals to achieve those values and make a promise to do their best to accomplish their goals (Hayes, 2016). In fact, this part of the treatment was effective due to its increasing of the individual's motivation to deal with the fear of dental interventions. Moreover, mindfulness enhanced the patients' relationship with the present moment, which was followed by reduced involvement in dysfunctional thoughts related to dental anxiety. Furthermore, performing cognitive diffusion activities distracted the patients from dental anxiety-related thoughts. Given the significant role of inefficient thoughts in the intensification of the symptoms of patients with dental anxiety, this therapy helped the patients to feel free from the anxiety caused by dental interventions and to reduce the thoughts and emotions resulting from it (Yousefi & Piri, 2017). This was facilitated through the "observer" task that helped the patient to be merely an external observer of thoughts and feelings. Therefore, it could be argued that ACT training, by helping the patients to distinguish their feelings, internal emotions, and experiences and to use them appropriately, helped them to understand their situations and interactions and experience them with a new perspective rather than to ignore internal emotions and experiences (Stouthard et al., 1993), thereby improving their dental anxiety.

As for the mechanism of effect of CBT on the symptoms of patients with dental anxiety, it can be said that CBT, via teaching dental anxiety management, can decrease dental anxiety through reducing avoidance, inducing the ability to detect the fear of dental interventions, and increasing group self-efficacy. During the treatment, the patients understood dental anxiety and its vicious cycle thoroughly (Wang et al., 2012).

Expressing the importance of thoughts about dental anxiety and their role in inducing excitements, identifying negative spontaneous thoughts, analyzing common cognitive distortions during the occurrence of dental anxiety, and detecting the difference between thoughts and reality helped the patients to change their negative emotional and behavioral outcomes, i.e., dental anxiety and dental treatment avoidance, by modifying their thoughts about dental interventions, getting familiar with the preparatory events, and changing cognitive deficiencies and distortions (Gumport et al., 2015). During the CBT, feelings and their relationship with the

patients' previous thoughts were investigated and other realities were recalled to decrease the negative thoughts associated with dental anxiety. Analyzing the quality of evidence and replacing the compatible, realistic, positive, and flexible beliefs can help the patients to change their old and inefficient rules and assumptions into new and efficient ones and can induce motivation for replacing thoughts in themselves through evaluation of compatible thoughts. Performing the visual and realistic exposure technique, practicing it, and generalizing it to real situations individually made the patients gradually deal with irritating stressors, including dental office, dental tools, dental unit, and dental interventions, and helped them make an effort to cope with these stressors for a longer time, giving them a chance to analyze the stressors mentally. This diminished the patients' tendency to use avoidance strategies to cope with stressors, thereby reducing dental anxiety because of regular exposure (Shahnavaz et al., 2016).

This study had some limitations that need to be considered while making conclusions and generalizing the findings. One limitation was the multidisciplinary nature of the study, with no possibility of medical treatment control. Moreover, there was no long-term follow-up after the psychological training as the follow-up period lasted only 3 months. In addition, like other human studies, the family environment and socioeconomic conditions of the individuals in this study affected the results. Therefore, generalizing the findings to the whole society should be done with caution and adequate knowledge.

Conclusion

Finally, given the efficacy of ACT and CBT in reducing the symptoms of patients with dental anxiety, and consequently, decreasing dental treatment avoidance, these two therapies can be used to promote preventive oral health measures.

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Comparison of Effectiveness of Self-Care Group Training and Acceptance and Commitment Therapy on Psychological Well-Being and Quality of Life of Patients with Type 2 Diabetes

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Quantitative Study

Abstract

Background: Diabetes mellitus (DM) is one of the most common weakening and chronic metabolic disorders. The present study was conducted to compare the effectiveness of self-care group training and acceptance and commitment therapy (ACT) on psychological well-being and quality of life (QOL) of patients with type 2 diabetes (T2D).
Methods: The present study was an applied and quasi-experimental study with a pretest-posttest design, a control group, and follow-up. The statistical population consisted of patients with T2D referring to medical centers in Kish Island, Iran, in 2019. The sample consisted of 60 patients with T2D who were selected using convenience sampling and were divided into the self-care needs training (n = 20), ACT (n = 20), and control groups (n = 20) using simple randomization method. The groups completed the World Health Organization Quality-of-Life Scale (WHOQOL-BREF) and Ryff's Scales of Psychological Well-being (SPWB). Data were analyzed using repeated measures analysis of variance (ANOVA) in SPSS software.
Results: The findings showed that ACT and self-care needs training lead to improved QOL and psychological well-being of patients with T2D. The results showed that ACT has a greater efficacy than self-care needs training in improving psychological well-being and QOL in patients with T2D ($P < 0.01$).
Conclusion: It can be concluded that ACT has a higher impact than self-care group training on QOL and psychological well-being of patients with T2D.
Keywords: Self-care; Acceptance and commitment; Quality of life; Psychological well-being, Diabetes mellitus

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Introduction

Diabetes mellitus (DM) is one of the most common weakening and chronic metabolic disorders. Today, more than 145 million people around the world are affected by the disease (Marso, , et al., 2016). The World Health Organization (WHO) estimates that the number of people with DM will reach 300 million by 2025 (American Diabetes Association, 2015). DM is associated with an increased risk of psychological disorders (Benitez & Mendoza Tascon, 2016).

One of the components affected by DM is quality of life (QOL). According to the WHO concept, the people have a sense of their community, meaning, aims, aspirations, and goals in terms of the quality of life (Dumuid, et al., 2017). QOL is a person's perception and personal experiences of health and illness (Ajmera & Jain, 2019). Since, like other variables, its measurement requires a comprehensive and specific definition, experts have always tried to provide an appropriate definition for it (Kim, Woo, & Uysal, 2015).

The scope of psychological well-being studies has extended from the area of individual life to social interactions (Ferrari, Dal Cin & Steele, 2017). Psychological well-being includes an individual's perceptions of the degree to which his/her specific planned goals are aligned with functional outcomes. (Hendrix, et al., 2016). In some processes, certain investigators conceptualize psychological well-being in terms of emotional processes (Pinto, Faiz, Davis, Almoudaris, & Vincent, 2016).

Acceptance and commitment therapy (ACT) is one of these therapies. Acceptance and commitment counseling is one of the most popular emotional acceptance and flexibility therapies (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). ACT is based on a research program about language and cognition called the theory of the framework of mental relations (Lin, Luking, Ebert, Buhrman, Andersson, & Baumeister,, 2015). ACT allows the client to achieve a more value-added and fulfilling life with greater psychological flexibility and has 6 main processes which lead to psychological flexibility (Dindo, Van Liew and Arch, 2017). Jennings, et al (2017) argued that the treatment of a large spectrum of psychological and behavioral disorders is only possible acceptance and commitment therapy. Gillanders, MacLean, and Jardine (2015) suggested that cognitive fusion is the strongest predictor of anxiety syndrome in people with cancer. Dinis, Carvalho, Gouveia, and Estanqueiro (2015) concluded that ACT is effective on individuals' psychological well-being and mental health.

Another training method used to improve diabetes symptoms is self-care training. In this training method, self-care methods are explained to patients. Learning self-care activities can lead patients' toward maintaining health and well-being, increase their adaptation and self-care capability, and reduce their disabilities and treatment costs (Mahdi, Maddah, and Mohammadi, 2006) have suggested the development of treatment programs for self-care behaviors . The present study was conducted to compare the effectiveness of self-care group training and ACT on psychological well-being and quality of life of patients with type 2 diabetes (T2D).

Methods

The present study was an applied and quasi-experimental study with a pretest-posttest design, a control group, and follow-up. The statistical population consisted of patients with T2D referring to medical centers in Kish Island, Iran. The sample consisted of 60 patients with T2D who were selected using convenience sampling and were divided into 3 groups of self-care needs training (n = 20), ACT (n = 20), and

control group (n = 20) using randomization method. Based on an effect size of 0.25, alpha of 0.05, and power of 0.80, the number of subjects was calculated to be 20 people in each group. The probability of sample loss in the study was predicted to be 5 people in each group, and based on this, the total number of participants was considered to be 60 people. The control group did not receive any training.

The study inclusion criteria included duration of diabetes of at least 1 year, hemoglobin A1c (HbA1c) of above 7%, at least 30 years of age, middle school graduate degree, lack of diagnosed psychiatric care, lack of acute or chronic disorders, lack of serious mental disorder, and misuse of medicinal products. Severe DM complications that lead to hospitalization, absence from more than 2 treatment sessions, and occurrence of major stresses were considered as the exclusion criteria. The data collection tools used included the World Health Organization Quality-of-Life Scale (WHOQOL-BREF), and Ryff's Scales of Psychological Well-being (SPWB).

The World Health Organization Quality of Life Scale: The WHOQOL-BREF (1998) consists of 26 questions in the 4 subscales of physical health, mental health, social relations, and environmental health. The questions are scored based on a Likert scale ranging from 1 to 5. An individual's score in this questionnaire ranges between 26 and 130. This questionnaire has been standardized in Iran by Nejat et al. (2006) and the validity of the questionnaire has been reported to be appropriate. The test-retest reliability of the physical health, mental health, social relations, and environmental health subscales was reported to be 0.77, 0.75, 0.77 and 0.84, respectively, and the internal consistency of its subscales using Cronbach's alpha was reported to range from 0.52 to 0.84 for patients and healthy individuals. The internal consistency coefficients of its 8 subscales were reported to range between 0.70 and 0.85 and their test-retest coefficients with a time interval of 1 week were reported to range between 0.43 and 0.79. Moreover, this scale can distinguish healthy people from patients in all indicators (Asghari, Saadat, Atefi Karajvandani, & Janalizadeh Kokaneh, 2014).

Ryff's Scales of Psychological Well-being: Ryff (1989) developed the SPWB self-report tool to measure his theoretical model. He developed the 84-question version in 1989. In the 84-question version, 14 questions are allocated to each factor. These factors include self-acceptance, mastery of the environment, positive relationships with others, personal growth, purposefulness in life, and self-adherence (Ryff, 1995). In Iran, Bayani, Goudarzi, Kouchaki, and Bayani (2008) examined the validity and reliability of the 84-question version on a sample of university students. The test-retest reliability coefficient obtained for the overall score, and for the subscales of self-acceptance, positive relationships with others, self-adherence, mastery of the environment, purposefulness in life, and personal growth was 0.82, 0.71, 0.77, 0.78, 0.77, 0.70, and 0.78, respectively. The with Life Scale (SWLS),, Oxford Happiness Inventory (OHI), and Rosenberg Self-Esteem Scale (RSES) were used to assess the validity of the SPWB and the correlation of the scores of these tests with that of the SPWB was obtained to be 0.47, 0.58, and 0.46, respectively.

From among the statistical population, the researcher selected individuals according to the research criteria. After obtaining patients' consent to participate in the study, the questionnaires were distributed among them simultaneously. HbA1c test was performed before starting the sessions and with an informed consent. Both groups completed the WHOQOL-BREF and SPWB. Then, the training group underwent training. Blood sugar tests for participants in both groups were conducted at the end of the sessions. The control group participants wrote down their blood

sugar test report. The questionnaires were completed and HbA1c tests were again conducted 3 months after the end of the training to track and assess the stability of the therapeutic methods' effect.

In order to comply with ethical principles, the researcher assured the patients that their information would be confidential and analyzed as a group.

Ethical considerations were include: All participants in this research provided informed consents, all information was kept confidential and used for investigative purposes, the names of the participants were not recorded in order to protect their privacy, and the researchers themselves administered all questionnaires.

Self-care training sessions based on the training package of Shapiro and Brown (2007) were held in 5 weekly 90-minute sessions in a diabetes treatment clinic in Tehran, Iran. (Table 1).

ACT sessions based on the training package of Hayes et al. (2006) were held in 8 weekly 90-minute sessions in a diabetes treatment clinic. (Table 2).

Mean and standard deviation indices were used to describe the data, and repeated measures analysis of variance (ANOVA) and the Bonferroni test were used to analyze the data. In order to test the presuppositions of the inferential test, Levene's test (to check the homogeneity of variances), Kolmogorov-Smirnov test (for normal distribution of data), Box's M test, and Mauchley's sphericity test were used. Statistical analyses were performed in SPSS software (version 22, IBM Corporation, Armonk, NY, USA). The significance level of the tests was considered as 0.05.

Results

The mean and standard deviation of age in the experimental group was 46.4 (10.1) years and in the control group was 45.3 (9.65) years.

Table 3 show frequency distribution and comparison of demographic characteristics of research units.

Mean and standard deviation of research variables in the experimental and control groups is shown in table 4.

Repeated measures ANOVA was used to determine the importance of the difference between the 3 groups in terms of QOL and psychological well-being scores. Before conducting repeated measures ANOVA, the effects of the Box's M and Levene's tests were analyzed (Box's M = 10.10; P > 0.05). The non-significance of each of the variables in the Levene's test illustrated the intergroup variance equality status and the equality of the dependent variable error variance quantity in all classes. Wilks' Lambda test with a value of 0.13 and F = 46.51 showed a substantial difference in QOL and psychological well-being scores between the self-care preparation, acceptance and commitment counseling, and control groups (P < 0.001).

Table 1. Content of the Shapiro and Brown self-care training sessions (2007)

Sessions	Content
First	The lecturers introduced themselves and the disease and its process, prognosis, symptoms, complications, and risk factors were explained.
Second	Methods for prevention and controlling of the disease, and self-care behaviors and their importance were explained and discussed in simple words.
Third and fourth	These 2 sessions were held based on problem solving method. In addition, at this stage, the patients are taught skills they require to better control the disease.
Fifth	This session was based on training participation. This stage is designed in such a way that the patient, as a health connector, takes on the role of training his/her family.

Table 2. Content of acceptance and commitment therapy sessions of Hayes et al. (2006)

Sessions	Goal	Content of sessions
First	Fully understanding the nature of anxiety and identifying its coping strategies based on the results of the questionnaire or any other method/ controlling personal events	Introducing the members, explaining the group counseling rules, determining the goals, determining previous efforts of clients to deal with anxiety, describing thoughts and signs, introducing inefficient control system to clients, reminding them that self-control is problematic, and homework
Second	Dealing with the experiences of the client, strengthening him/her, and his/her recognition that "self-control is a problem"	Tug of War with a monster metaphor, polygraph metaphor, emphasizing the importance of promoting and cultivating mindfulness, and homework: "What is the function of worry?"
Third	Creating an orientation for developing mindfulness skills as an alternative to worry and introducing the concept of defusion	Polygraph metaphor, practicing the metaphor of milk, milk, milk, passion as an alternative to control, two-scale metaphor, instructions for passion, clear emotions vs. vague emotions, introducing mindfulness through mindful breathing practice, and homework: continuing mindfulness practice
Fourth	Introducing the importance of values and how to distinguish them from goals, and setting simple behavioral goals in order to achieve specific values	Introducing values, discussing the relationship between goals and values, choosing values, and homework: presenting a value identification sheet, performing a valuable action
Fifth	Continuing creation of an orientation toward mindfulness and providing more practical ways to cultivate defusion	Recognizing values using the metaphor of "tombstone", instructions for mindfulness skills, practicing mindfulness, and homework: identifying a valuable action (behavioral goal to achieve during the week)
Sixth	Paying attention to emotion function, behavioral avoidance habit, and distinguishing clear and vague emotions	Instructions for emotion function, instructions for emotional cycle control, emotional avoidance (hot stove metaphor), clear emotions vs. vague emotions, and homework: practicing mindfulness, and identifying a valuable action (setting a behavioral goal to achieve during the week)
Seventh	Explaining the distinction between observer selves and conceptual selves and identifying the relationship between self-conceptualizations and anxiety and worry	Chessboard metaphor, discussing observer self vs. conceptual self, practicing observer self, identifying a valuable action to perform during the week, and homework: performing an action with a specific value
Eight	Presenting the idea of commitment as a tool to move toward specific goals and strengthening choices to achieve those goals	Commitment as a process, identifying operational steps, presenting the gardening metaphor, obstacles to achieving goals, the metaphor of passengers on the bus, the metaphor of climbing a mountain, identifying a valuable action (behavioral goal) to perform during the week, and homework: performing an action with a specific value

The results presented in table 5 indicate that QOL ($F = 137.18$) and psychological well-being ($F = 68.18$) are significant at the level of 0.0001. The Bonferroni test was also used for the paired comparison of groups.

Table 6 indicates that the mean QOL and psychological well-being posttest scores were higher in the ACT group compared to the self-care training group and control group ($P < 0.01$). In other words, acceptance and commitment counseling was the most effective in terms of efficacy, but self-care instruction was also effective on the study variables ($P < 0.01$).

Table 3. Frequency distribution and comparison of demographic characteristics of research units

Demographic variables		Acceptance and commitment therapy	Self-care treatment	Control	P-value
Gender	Female	11 (55)	8 (40)	10 (50)	0.27
	Male	9 (45)	12 (60)	10 (50)	
Marital status	Single, divorced, or widowed	2 (10)	3 (15)	1 (5)	0.93
	Married	18 (90)	17 (85)	19 (95)	
Age (year)	30-40	6 (30)	6 (30)	5 (25)	0.31
	41-50	10 (50)	9 (45)	10 (50)	
	51-60	4 (20)	5 (25)	5 (25)	
Education	Up to high school diploma	11 (55)	12 (60)	9 (45)	0.11
	Associate degree	5 (25)	7 (35)	6 (30)	
	Bachelor's degree and higher	4 (20)	1 (5)	5 (25)	

Discussion

According to the obtained results, the greatest effect on the research variables was observed in the ACT, and then, self-care group. The results of this study are consistent with the results of studies by Ebrahimpour, Mirzaeian & Hasanzadeh (2019), Pourkazem & Eshghi Nogourani (2018), Baraz, Zarea & Shahbazian (2017), Abd Elalem, Shehata & Shattla (2018).

It can be said that in the approach based on ACT, clients are taught to accept their emotions in the first step and have more flexibility. During the treatment sessions, patients are encouraged to reduce useless struggle with psychological content. When thoughts and feelings are viewed with openness and acceptance, the most painful of them seem less threatening and more tolerable, and ineffective control acts are reduced. Thus, as the acceptance of the disease and commitment to treatment improves, the patient's perception, and thus, adherence to treatment instructions increase (Pourkazem & Eshghi Nogourani 2018).

ACT had a greater impact on patients' cognitive evaluation. In this approach, the patients are helped to focus on the present moment instead of living in the past and future. The individual learns to substitute the controlling of internal events with acceptance and taking steps to achieve his/her own goals and values (Batink, Bakker, Vaessen, Kasanova, & Collip, 2016). Through encouraging repeated practice, focused attention on neutral stimuli, and purposeful awareness of body and mind, ACT frees individuals from mental preoccupation with threatening thoughts and performance concerns and removes their minds from automatic gear. That is, these techniques improve patients' cognitive evaluation by increasing their awareness of current moment experiences, and reminding them to pay attention to the cognitive system and more efficient information processing (Mattila, et al., 2016).

Table 4. Mean and standard deviation of research variables in the experimental and control groups

Variable	Group	Pretest	Posttest	Follow-up
		Mean ± SD	Mean± SD	Mean ± SD
Quality of life	Acceptance and commitment	58.75 ± 6.49	68.15 ± 6.19	67.15 ± 6.12
	Self-care	60.60± 4.30	66.05 ± 3.63	65.35 ± 3.55
	Control	59.95± 4.51	60.50 ± 4.62	60.45 ± 4.68
Psychological well-being	Acceptance and commitment	30.45± 3.57	36.45 ± 3.5	35.75 ± 3.36
	Self-care	27.75 ± 3.89	31.55 ± 3.99	30.95 ± 4.11
	Control	30.90 ± 4.27	31.55 ± 4.09	31.70 ± 3.97

Table 5. Comparison of pretest and posttest in experimental and control groups using repeated measures analysis of variance

Variables	Source of effect	SS	df	MS	F	P	Eta square
Quality of life	Time	213.75	1.38	154.38	203.40	0.001	0.84
	Time*group	141.65	1.38	102.30	134.79	0.001	0.78
	Group	410.70	2	410.70	7.74	0.008	0.17
Psychological well-being	Time	120.01	2	60.00	402.76	0.001	0.87
	Time*group	54.15	2	27.07	124.70	0.001	0.76
	Group	111.24	2	55.62	318.69	0.001	0.86

In explaining this finding, it can be said that patients' knowledge on early and late complications of the disorder, signs of extreme hyperglycemia, and the importance of blood sugar regulation and steps to avoid complications can be improved by introducing frequent educational interventions. As mentioned in previous studies, awareness is a prelude to behavior change in all health-related educational programs (Ebrahimpour, Mirzaeian & Hasanzadeh, 2019). Therefore, it is recommended that special attention be paid to increasing patients' awareness about T2D in diabetes clinics and other health centers. These findings indicate that these studies have been able to successfully address patients' beliefs and attitudes about the importance of self-care behaviors in controlling disease complications and improving patients' health. Therefore, it is recommended that educational interventions emphasize on improving patients' attitudes toward self-care behaviors. Attitude is mentioned as one of the main pillars of behavior change. In some studies, it has been observed that despite the increase in awareness and lack of change in attitude, education has an effect on patients' self-care behaviors (Butler, Carello, & Maguin, 2017). These results indicate that it is necessary to pay attention to patients' attitudes as one of the variables affecting people's behavior; thus, shifting focus from raising awareness to creating a positive attitude is a path that must be taken to change behavior (Lin, Luking, Ebert, Buhrman, Andersson, & Baumeister, 2015).

This study is planned to be conducted on another sample and the findings will be compared with the results of this research. It is suggested that the therapies introduced in the present study be compared with other psychological interventions. Moreover, it is recommended that researchers consider the results obtained in the present study as new research hypotheses in future researches. It is suggested that this research be performed in other cities and its results be evaluated. It is also suggested that this group training be followed up with individual counseling. Today, in most parts of the world, treatment is implemented in groups and teams (Pinto, Faiz, Davis, Almoudaris & Vincent, 2016).

Conclusion

According to the study results, it can be concluded that group ACT has a greater impact than self-care group training on QOL and psychological well-being of patients with T2D.

Table 6. Comparison of research variables using the Bonferroni test

Variables	Group	Group	Mean difference	P
Quality of life	Self-care	Acceptance and commitment	-3.81	0.001
	Acceptance and commitment treatment	Control	4.90	0.001
		Control	8.71	0.001
Psychological well-being	Self-care	Acceptance and commitment	-2.43	0.001
	Acceptance and commitment treatment	Control	2.92	0.001
		Control	5.36	0.001

Conflict of Interests

Authors have no conflict of interests.

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The Effectiveness of Compassion-Focused Therapy for Parents on Reducing Aggression, Behavioral Problems and Anxiety in Children

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Quantitative Study

Abstract

Background: This study aimed to determine the effectiveness of compassion-focused treatment education for parents on reducing aggression, behavioral problems, and anxiety in children.

Methods: This quasi-experimental research was designed based on a pretest-posttest with an experimental and a control group. The statistical population included all mothers with preschool children with developmental neuropsychological learning disorders in Isfahan, whose children were enrolled in kindergarten in the 2019-20 academic year. This study sample included 30 people selected by convenience sampling method and randomly divided into an experimental group (teaching therapy focused on compassion to parents) and a control group, each containing 15 people. The research instruments included the Preschool Children Behavioral Problems Questionnaire, the Preschool Children Aggression Scale, and the Children Anxiety Scale. Data were analyzed by SPSS software and univariate analysis of covariance.

Results: The findings showed that compassion-focused therapy training was effective in reducing aggression ($P < 0.001$), behavioral problems ($P < 0.001$) and anxiety ($P < 0.001$) in children.

Conclusion: Compassion-based therapy can be applied to improve anger, behavioral problems, and anxiety in children.

Keywords: Compassion-focused therapy; Parents; Aggression; Behavioral problems; Anxiety; Children

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Introduction

Neuropsychological problems delay children's development and may affect other aspects of development, including their behavioral function. Behavioral problems incredibly various, chronic, and deviant behaviors that range from aggressive or sudden arousal to depressive and withdrawn behaviors. Behavioral problems in children are common and debilitating problems that cause many difficulties for families and children and cause helplessness or reduced efficiency in individual and academic performance (Mazurik & Sahl, 2016). Behavioral disorders in children, a wide range Includes hyperactivity, aggression, anxiety, depression, social maladaptation, fear, and behavioral disorders that require early diagnosis and intervention (Mortamais, Puyol, Martinez-Villavilla, Rinsabatier, Syracuse, 2019). In total, between 14% and 24% of children and adolescents suffer from various behavioral and emotional problems (York, White, Whiston, Rafella, Charman, & Simonoff, 2018). Behavioral problems in early childhood are often a precursor to the development of antisocial behaviors. Behavioral problems in the individual and social spheres create many problems. Children with these disorders cause problems for their families, schools, and society in general. When a group of children's capacities and abilities remain unknown and do not receive appropriate intervention, these problems lead to dysfunction in areas of life disrupted, including education and interpersonal relationships, which can ultimately pose a threat to the child's mental health. To the extent that it makes him vulnerable to the psychosocial turmoil of adulthood. Research in this area is essential due to the side effects of behavioral problems and the shortcomings in predicting behavioral problems in preschool (Thomas et al., 2018).

Because if the mother has a good relationship with her child, it may affect the recovery of these children, and it can even be said that the mother's behavioral disorders cause more disturbances in the children's behavior than the father's emotional distress (Sinclair et al., 2016). Among the therapeutic and educational activities that focus on the parent, especially the mother, is an education focused on compassion. Compassion is the presentation of a kind of empathy and non-judgmental understanding of one's pains, sufferings, mistakes, and inadequacies to see one's bitter experiences as a larger part of human experience (Wang et al., 2018). Basic principles in compassion-based therapy suggest that external soothing thoughts, factors, images, and behaviors should be internalized. Based on these findings and other research pieces, Gilbert utilized this structure in treatment sessions and, finally, proposed compassion-focused therapy theory (Gilbert, 2009). Compassionate therapy teaches people not to struggle with their painful feelings; therefore, they can know their experience in the first step and feel compassion for it. Instead of focusing on changing, their "self-esteem" changes (Gilbert, 2010). Considering the interaction between mother and child, many of the behavioral problems of children are due to the way parents, especially the mother, treat the child, so research in this field is of great importance.

Basic principles in compassion-focused therapy point out that external soothing thoughts, factors, images, and behaviors must be internalized, in which case the human mind responds to external factors as it does. It also calms down with this insight (Kelly and Carter, 2015). The compassion variable has three aspects: Kindness to oneself versus self-judgment, feelings of human commonalities versus isolation, and awareness versus increasing imitation (Wilson, Macintosh, Power, & Chan, 2018). Self-compassion can be defined as a positive attitude towards oneself when things go wrong. Self-

compassion is considered a useful trait and a protective factor for cultivating emotional flexibility. In recent years, therapies have been developed to improve self-compassion (Held and Owens, 2015). Self-compassion leads to a sense of self-care, self-awareness, an unequivocal attitude toward one's inadequacies and failures, and the acceptance that one's experiences are also part of ordinary human experiences. People with high self-esteem treat themselves with kindness and concern when they experience adverse events. High levels of self-compassion increase social interaction and reduce self-criticism, reduce rumination, reduce thought suppression and anxiety, and reduce stress (Feliu-Soler, Pascual, Elices, Martin-Blanco, Carmona, et al., 2017). Collins et al. (2017) have shown in their research that compassion-focused therapy can reduce anxiety and depression in the elderly with dementia. In a study, Breines et al. (2014) found that compassion-focused therapy may help people affected by psychological problems, including symptoms of depression.

Due to the lack of research conducted on the role of psychotherapy and emerging third-wave therapies in improving psychological and behavioral abnormalities in children with neuropsychological/developmental learning disabilities, these children may lead to secondary problems such as behavioral problems delays due to Brain challenge. Therefore, Some believe that neuropsychological medical models follow these children's behavioral problems (Biggs et al., 2017). Psychiatric health professionals include neuropsychological/developmental learning disorders, including biological disorders. Nevertheless, in this study, the researcher seeks to examine the environmental model of the family system. This study aims to determine the effectiveness of compassion-focused treatment education for parents on reducing aggression, behavioral problems, and anxiety in children.

Methods

This quasi-experimental research was designed based on a pretest-posttest with an experimental and control group. This study's statistical population included all mothers with preschool children with developmental neuropsychological learning disorders in Isfahan, whose children were enrolled in kindergarten in the 2019-20 academic year. Accordingly, 30 children were randomly selected from those who received the highest score in the Steel Cognitive Neuropsychology Questionnaire and, at the same time, according to the psychiatrist and family, also have behavioral problems, as the criterion for entering the study. The selected children were randomly divided into two 15-member groups of controls and experiments. Inclusion criteria included maternal consent and cooperation to participate in the study, having preschool children with neuropsychological/developmental learning disorders, no other mental or physical problems, no medication, or any other therapeutic intervention during education. Exclusion criteria included non-cooperation of mothers, absence of more than two sessions, failure to answer questionnaire questions. The experimental group was treated with compassion based on the research activities of Gilbert and Eisoner (2004) and Gilbert (2009) for eight sessions of 90 minutes two days a week in one of the kindergartens in Isfahan. However, the control group did not receive any intervention. In this study, the following tools were used to measure the desired variables. Since in experimental studies, the minimum sample size in each group should be 15 people (Gal et al. 2002), so the sample of this study included 30 people selected by convenience sampling method. To select these children, first, the children who were exposed to this disorder were introduced

through the parents and the psychologist of the kindergarten, and then, to ensure their disorder, a checklist was checked for the signs of the children's pre-learning disability. Educators completed steel Elementary School (2004) for several children at risk for the disorder. Checklist for signs of preschool children's learning disabilities: This list was used to screen for selecting the studied samples.

Preschool Children Behavioral Problems Questionnaire: This questionnaire was prepared by Shahim and Yousefi (1999) in 24 items and four subscales, including attention deficit, fear, social behavior, and aggression, which evaluates the opinions of the respondents on a three-point Likert scale (never = 0; sometimes = 1; most of the time = 2). This questionnaire's validity has been reported using Cronbach's alpha for the questionnaire's total score, 0.80, and using the retest method, 0.77. This scale focused on four factors of attention deficit, fear, social behavior, and aggression with the specific values of 4.78, 2.02, 1.60, and 1.24, respectively (Shahim and Yousefi, 1999). The internal consistency coefficient by Cronbach's alpha method in the present study was 0.77.

Preschool Aggression Scale: This questionnaire controlled 43 items and four subscales of physical aggression, relational, verbal, reaction to measure aggression in 3- to 6-year-old children. Each item was answered in a five-point range (basically = zero, rarely = 1, once a month = 2, once a week = 3, and most days = 4). Vahedi et al. (2008) used exploratory factor analysis to evaluate the construct validity. Factor analysis of this scale with the help of principal components analysis and after Varimax rotation provided four factors: verbal-aggressive aggression, physical-aggressive aggression, relational aggression, and impulsive anger, representing the validity of the scale structure. Cronbach's alpha method was used to evaluate the questionnaire's reliability, which was 0.98 for the whole scale and 0.94, 0.92, 0.94, and 0.88 for the verbal-aggressive, physical-aggressive, relational, and impulsive aggression subscales, respectively, indicating a reliable questionnaire. The internal consistency coefficient by Cronbach's alpha method in the present study was 0.85.

***Spence Children Anxiety Scale (Parents Report)*:** The Preschool Children Anxiety Scale was developed by Spence et al. (2001). On this 28-item self-report scale, parents were asked to grade their child's behavior on a 5-point Likert scale from no means (0) to always (4). The questionnaire holds five subscales: generalized anxiety disorder, social panic, obsessive-compulsive disorder, fear of physical injury (as a specific panic), and separation anxiety disorder. The score of each subscale is obtained by adding the score of the questions related to each subscale. Then the sum of the scores of the subscales represents the total score of anxiety. Also, there is an open-ended question about the child's experience of traumatic events that is not scored; however, in case of such an incident experience, the child will be asked five other items that mark post-traumatic stress disorder symptoms. These five items' scores are not calculated in the total score and are met only for clinical attention to this disorder. Psychometric assessments of the scale's validity have shown that all subscales (except the obsessive-compulsive subscale) hold average to high homogeneity (Cronbach's alpha greater than 0.70). Spence et al. (2001) validated the validity of this questionnaire for the subscales of generalized anxiety, social phobia, obsessive-compulsive disorder, fear of physical injury (as a specific fear), and separation anxiety disorder (69.6), respectively. This scale's reliability has been

Table 1. Descriptive indicators of behavioral problems, aggression and anxiety in the pre-test and post-test stages separately for the experimental group and the control group with the results of the analysis of covariance

Variables	Group	Pre-test	Post-test
		Mean ± SD	Mean ± SD
Behavior problems	Experimental	35.46 ± 7.74	28.17 ± 5.95
	Control	34.73 ± 6.20	33.11 ± 6.53
Anxiety	Experimental	30.12 ± 4.69	21.10 ± 2.56
	Control	31.54 ± 4.40	32.26 ± 4.14
Aggression	Experimental	53.12 ± 4.69	35.10 ± 2.56
	Control	53.54 ± 4.40	52.26 ± 4.14

SD: Standard deviation

reported 0.67, 0.57, 0.55, 0.41, 0.52, and 0.49 for generalized anxiety subscales, social panic, obsession, fear of physical injuries (as a specific panic), and separation anxiety disorder, respectively (Ghanbari et al., 2011). The internal consistency coefficient by Cronbach's alpha method in the present study was 069. Data were analyzed using a univariate analysis of covariance and SPSS.22 software.

Results

The mean (standard deviation) age of the experimental group was 46.3 (11.8), and the control group was 44.8 (10.5) years. The Shapiro-Wilkes and Loon tests were applied to check the necessary assumptions before performing the variance analysis. The Shapiro-Wilkes test for distributing research variables in the post-test phase showed that the research variables had a normal distribution. Leven test was used to examine the default homogeneity of error variances. The results of the Leven test showed that the hypothesis of homogeneity of variances was not rejected. Examining the homogeneity of regression slopes also showed that the presumption of homogeneity of regression slopes was also established. Therefore, there were necessary assumptions to perform a univariate analysis of covariance. Table 3 lists the descriptive indicators along with the results of the analysis of covariance.

Analysis of covariance was used to evaluate whether these differences were statistically significant in the experimental group compared to the control group.

The findings of table 2 showed that the mean scores of behavioral problems, aggression, and anxiety in the post-test stage after controlling the pre-test scores were significant in both groups. This means that two treatments based on compassion were effective in reducing behavioral problems ($P < 0.001$), reducing aggression ($P < 0.001$), and reducing anxiety ($P < 0.001$). The coefficients of behavioral problems, aggression, and anxiety were 0.74, 0.59, and 0.24, respectively.

Table 2. Analysis of covariance results to evaluate the effectiveness of compassion focused therapy on aggression, behavioral problems and anxiety

Variables	SS	df	MS	F	P	Eta
Behavior problems	490.00	1	490.00	9.13	0.005	0.24
Anxiety	1172.95	1.07	1091.87	40.55	0.001	0.59
Aggression	267.80	1.07	249.28	9.25	0.004	0.24

SS: Sum of squares; df: Degree of freedom; MS: Mean of Squares

Discussion

This study showed that parents' compassion-focused treatment for parents effectively reduces aggression, behavioral problems, and anxiety in children. This study's results were consistent with the findings of Navarro-Gil et al. (2018) and Galli et al. (2014).

Self-compassionate education can lead to appropriate thinking, and people can learn how to recognize their irrational and irrational evaluations. Therefore, it naturally empowers people to lead problems, have a healthy response, overcome difficulties, and move with life's flow, increasing their life's quality. Education can potentially be the source of change, including changes in attitudes and beliefs, which can reduce aggression, behavioral problems, and anxiety in children. Self-compassionate education helps parents learn how to recognize their irrational and irrational evaluations and take action to correct them and enjoy their social relationships, work, and leisure, which reduces stress and increases the quality of life (Navarro-Gil et al., 2018). The nature of group education itself can positively affect reducing aggression, behavioral problems, and anxiety in children. Because the grouping of people in the group and the fact that each person feels that others have similar problems effectively reduces stress and negative mood, increasing acceptance of reality, and coping with it. Therefore, self-compassionate parenting education can reduce aggression, behavioral problems, and anxiety in children.

Teaching compassion for parents makes parents as kind to themselves as they are to others. The lessons learned from this treatment cause people to behave realistically, abandon the ideal self and the self-imposed on them by others, and thus gain more peace. Since the component of kindness refers to oneself, one tends to take care of oneself and one's perception instead of criticizing or judging harshly in the face of aspects of one's personality that one does not like. It makes patients with irritable bowel syndrome treat their shortcomings gently and calmly and speak to themselves in an emotionally supportive tone, instead of blaming and attacking themselves for their shortcomings, accepting them warmly. They show unconditionality towards themselves.

Furthermore, when living conditions become difficult and uncomfortable, parents focus on the inside to comfort themselves instead of just focusing on the outside work and trying to control or solve the problem. Self-compassion is the person's ability to make the most of the suffering he or she experiences during the transition (Galli et al., 2014). Feeling of human commonality, another component of self-compassion, is the understanding that all human beings are imperfect, mistakable, and may have unhealthy behaviors. Self-compassion links individual failure experiences to shared human experiences so that everyone's characteristics appear in the broad and universal perspective. Human judgments and conflicts also take the form of shared human experiences, so that when one experiences are suffering, one feels attached to others; But often, when people think of their shortcomings, they feel isolated and detached from others, in such a way that they feel that their fault was a mistake of which the rest of humankind has no share. When people experience difficult situations in life, they often fall into the trap of thinking that they are not the only ones who are in conflict and feel isolated and separated from other people who are likely to continue their happy and everyday lives. Consciously, the third component of self-compassion is being aware of what is happening in the present moment in a clear and balanced way. The person does not ignore aspects of his personality or life

that he does not like, nor does he chew around them (Kelly et al., 2017). Self-compassion includes caring of and empathizing with oneself, an unappreciated attitude toward oneself in the face of perceived difficulties or inadequacies. High self-compassion is associated with quality of life and protects people against stress. It means accepting vulnerable feelings, caring of and being kind to oneself, a non-evaluative attitude towards one's failures and failures, and recognizing one's experiences.

The present study's main limitations are as follows: The study results were limited to mothers with children with learning disabilities. This study was conducted only on the population of children with learning disabilities in Isfahan and generalizing the results to other regions and cities. It is suggested to conduct this research in another sample group and evaluate and compare its results with this research results. It is suggested to perform this research in other cities and evaluate their results. It is suggested to follow up this research as group counseling after individual training. Considering the effect of compassion-focused therapy on depression, self-care behaviors, and the quality of life of mothers with children with learning disabilities, it is recommended to use compassion-focused therapy as a group by psychologists. The Ministry of Health, Welfare Organization, hospitals, and the Organization of the Psychological and Counseling System, provide the ground for psychologists and teachers to become more familiar with compassion-focused treatment concepts by conducting compassion-focused therapy workshops.

Conclusion

Compassion-based therapy can be used to improve anger, behavioral problems, and anxiety in children

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Acute Psychological Responses in the First Days of the COVID-19 Lock-Down Order in China; A Population-Based Survey

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Report

Abstract

Background: The corona crisis is an unprecedented health emergency, with serious risks for physical and mental health. After the outbreak of the Covid-19 pandemic in Wuhan, China, the Chinese government was the first to implement a general lock-down in the Hubei Province on January 23rd 2020, which affected more than 50 million people.
Methods: From 27th January to 2nd February 2020, 3934 inhabitants of China and 3826 inhabitants of Hubei Province were interviewed through an online survey about their physical and mental health problems following the general lock-down in the Hubei Province on January 23rd 2020.
Results: In the early stage, people under lock-down mostly suffered from health-related anxieties, sleeping problems, physical complaints, and symptoms of anxiety and depressive disorders.
Conclusion: Our data indicate that social isolation is an unpleasant experience that has immediate psychological consequences for the individual. Follow-up studies to investigate the long-term psychological and psychosomatic problems resulting from the COVID-19 crisis are necessary.
Keywords: COVID-19 pandemic; Look-down; Mental health; Sleeping disorders; Anxiety

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Introduction

The corona crisis is an unprecedented health emergency, with serious risks for physical and mental health. After the outbreak of the Covid-19 pandemic in Wuhan, China, the Chinese government was the first to implement a general lock-down in the Hubei Province on January 23rd 2020, which affected more than 50 million people.

After the initial focus on securing basic medical care, expanding intensive care ventilation capacities, and preventing further chains of infection, the psychological consequences of the pandemic are now becoming increasingly visible. Due to the rapid and dramatic spread of the virus, especially at the beginning of the pandemic, structured reports and studies on the development of mental health in the context of the corona crisis are necessary. Here we would like to present the results of a large-scale online survey conducted in the initial phase of the pandemic to assess the need for psychological care.

Methods

From 27th January to 2nd February 2020, 3826 inhabitants of Hubei Province and 3934 inhabitants of other parts of China were interviewed though an online survey about their health-related anxiety, sleeping problems, physical symptoms, and emotional reactions. The study was conducted as part of an online survey on knowledge of, attitudes towards, and practice regarding COVID-19 (Zhong et al., 2020).

Results

The results showed that 31% of the respondents were men and 69% were women, with a mean age of 33.1 (10.5) years. More than 50% of respondents had a university degree. All participants provided an online consent. No significant differences were found between the province of Hubei and other parts of China in any of the items. Therefore, we report the results for the whole sample here.

Knowledge about coronavirus

96.4% of the respondents were aware of the clinical manifestations of the new coronavirus pneumonia infection and 98.3% of the respondents knew that isolation and treatment of infected persons is an important measure in the reduction of the spread of the virus.

Health-related anxiety

- 77.6% were concerned about getting infected with COVID-19 and 28.7% thought that they had probably already been infected with the virus.
- 89,0% were concerned about their family members already having caught COVID-19.
- 47.9% believed the probability of dying from the virus to be high to very high.
- 45.7% believed the probability of overcoming an infection with the virus to be low to very low.

Sleeping problems

Within the last month

- 30.2% had difficulties falling asleep,
- 27.1% had difficulties sleeping through the night,
- 17.5% woke up early, and
- 11.7% reported having nightmares (The content of the dreams was mainly related to COVID-19, infected family members, lack of medical care, death, and the end of the world.).

Physical complaints

Within the past 2 weeks, 30.8% reported physical complaints,

- 30,2% coughing,
- 20.8% headache,
- 18.0% heart palpitations and
- 14.2% nausea or upset stomach.

Emotional reactions

Within the past 2 weeks

- 17,4% were often worried,
- 10.4% reported panic attacks,
- 7.3% reported feelings of helplessness,
- 6.4% reported feeling pessimistic most of the time,
- 5.9% reported feelings of anger, and
- 3.3% reported feelings of desperation

Outlook

94.3% of the inhabitants were confident that the epidemic can be successfully controlled within 6 months.

Discussion

The data suggests that in the early stage of the pandemic people under lock-down mostly suffered from health-related anxieties, sleeping problems, and symptoms of anxiety and depressive disorders. The respondents took the threat of the virus seriously, were very concerned about themselves or their family members getting infected, and were scared of not overcoming the virus infection. However, at the same time, they were confident that the epidemic could be controlled (Zhong et al., 2020). This is in line with previous studies (Brooks et al., 2020).

To the best of our knowledge, this report contains the only data on psychological stress among the population of Hubei, China, in the first 10 days after the COVID-19 lock-down order on January 23, 2020. Wang et al. (2020), in a comparative study, examined the psychological responses of the general population of 194 cities in China in the initial stage, but not specifically in Hubei. An interesting phenomenon is the apparent contradiction in terms of belief in high mortality and low treatment options, and the belief that the epidemic can be successfully controlled. In the Chinese culture, viruses can be compared to tigers; although people realize that tigers can eat humans, they also believe that hunters can grab the tiger and keep it in a cage. Unfortunately, due to the limited space, these aspects cannot be discussed here.

The data are not representative in terms of gender, age, and level of education. The same limitation was present in the study by Wang et al. (2020) in which students were interviewed online using snowball sampling techniques. Another weakness was the lack of standardized questionnaires on mental disorders. Nevertheless, the data show that the population was significantly burdened by fears and physical complaints in the first few days.

Conclusion

Our data indicate that social isolation is an unpleasant experience that has immediate psychological consequences for the individual. If only a small percentage of these The treatment of these long-term psychological and psychosomatic problems resulting from the COVID-19 crisis will be of great concern for mental health specialist in

China and the world for months to come. The task for the future is to find a balance between the necessity of mandatory mass lock-down and the long-term psychosocial consequences (Rubin & Wessely, 2020).

Conflict of Interests

Authors have no conflict of interests.

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