

# SCIENTIFIC EVIDENCE OF HEALING WITH USE OF FAITH AND POSITIVE LANGUAGE IN PSYCHOTHERAPY

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## ABSTRACT

A qualitative study of 30 counsellors or psychotherapists whose work also includes healing was conducted using semi-structured interviews. Seven of the participants then joined the researcher in a human inquiry group. Participants in the research had been practitioners for a mean of over 10 years. The main themes that emerged were the transition by the practitioner towards the use of healing; the taboo concerning talking about spiritual and healing experiences reported by the participants; the nature of healing as distinct from therapy; the supervision difficulties that arose when participants engaged in both counselling/psychotherapy and healing with their clients; and the concept of spiritual space. Some very experienced psychotherapists and counsellors are now including healing in their work. This raises a number of important issues, particularly relating to supervision.

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## AN INTRODUCTION TO DR MASARU EMOTO

Masaru Emoto was a Japanese businessman, author and scientist who claimed that human consciousness could affect the molecular structure of water. His 2004 book *The Hidden Messages in Water* was a New York Times best seller. Masaru Emoto has carried out very interesting experiments with water at critical point for freezing. He claims that words expressing emotions have effect on the crystals formed in the process. Emoto reports that words with positive emotional contents produce beautiful crystals and those with negative emotional content generate ugly ones. Also, music and even pictures are reported to have similar effect. Emoto has also experimented with rice in water and claims that the words with positive emotions content induce a metabolic process known as fermentation whereas those with negative emotional content tend to induce rotting.<sup>i</sup> The experiments can be certainly criticized and people calling themselves skeptics have reacted violently to these claims. TGD inspired theory of consciousness and quantum biology suggests the presence of just this kind of effects and therefore one can make the working hypothesis that the effects are real and see what the TGD based explanation for them could be. In the sequel I will consider the working hypothesis that the effects are real, and develop an explanation based on TGD inspired quantum biology. The basic ingredients of the model are following: magnetic body (MB) carrying dark matter as  $h \text{ of } f / h =$  phases of ordinary matter; communications geoscientists confirm MB and biological body (BB) using dark photons able to transform to ordinary photons identifiable as bio-photons; the special properties of water explained in TGD framework by assuming dark component of water implying that criticality for freezing involves also quantum criticality, and the realization of genetic code and counterparts of the basic bio-molecules as dark proton sequences and as 3-chords consisting of light or sound providing a universal language allowing universal manner to express emotions in terms of bio-harmony realized as music of light or sound. The entanglement of water sample and the subject person (with MBs included) realized as flux tube connections would give rise to a larger conscious entity expressing emotions via language realized in terms of basic biomolecules in a universal manner by utilizing genetic code realized in terms of both dark proton sequences and music of light of light and sound.<sup>ii</sup>

## COMPONENTS OF WATER

The word **water** comes from **Old English wæter**, from **Proto-Germanic \*watar** (source also of Old Saxon watar, Old Frisian wetir, Dutch water, Old High German wazzar, German Wasser, vatn, Gothic (wato), from Proto-Indo-European wod-or, suffixed form of root \*wed- (“water”; “wet”). To find out what water is made of it helps to look at its chemical formula, which is H<sub>2</sub>O. This basically tells us that the water molecule is composed of two elements: **hydrogen and oxygen** or, more precisely, two hydrogen atoms (H<sub>2</sub>) and one oxygen atom (O). Hydrogen and oxygen are gases at room temperature. Water, a substance composed of the **chemical elements’ hydrogen and oxygen** and existing in gaseous, liquid, and solid states. It is one of the significant number of plentiful and essential of compounds. Water splitting is the chemical reaction in which water is broken down into **oxygen and hydrogen**:  $2 \text{H}_2\text{O} \rightarrow 2 \text{H}_2 + \text{O}_2$ . Efficient and economical water splitting would be a technological breakthrough that could underpin a hydrogen economy, based on green hydrogen. By **electrolysis** we can separate the components present in water by the breaking of the chemical bonds between the hydrogen and the oxygen atom. What is water: Water consists of **2 parts hydrogen and 1 part oxygen**. Water is the significant number of common chemical compound on planet Earth and the significant number of imperative compound for the formation of life and the survival of life. An experiment tested the hypothesis that water exposed to distant intentions affects the aesthetic rating of ice crystals formed from that water. Over three days, 1,900 people in Austria and Germany focused their intentions on water samples located inside an electromagnetically shielded room in California. Water samples located near the target water, but unknown to the people providing intentions, acted as “proximal” controls. Other samples located outside the shielded room acted as distant controls. Ice drops formed from samples of water in the different treatment conditions were centristically photographed by a technician, each image was assessed for aesthetic beauty by over 2,500 independent judges, and the resulting data subsequently analyzed, all by individuals blind with respect to the underlying treatment conditions. Results suggested that crystal images in the intentionally treated condition stridulously rated as aesthetically more beautiful than proximal control crystals ( $p \frac{1}{4} 0.03$ , one-tailed). This outcome replicates the results of an earlier pilot test. Can one person’s intention affect another person’s health from a distance? A growing number of clinical studies have investigated this question. Some of them provide positive

evidence<sup>iii</sup>, others do not. To help study this question under more stringent laboratory controls, investigators have also explored whether one person's intention can affect another person's nervous system from a distance.<sup>iv</sup> From those studies the evidence is clearer. From a meta-analytic perspective, the original question can be affirmed with a tentative yes. Tentative, because while the evidence is statistically significant and repeatable, the observed effects are small in magnitude, nontrivial to replicate, and theoretical explanations remain speculative.<sup>v</sup> Because of the complexities associated with studying human health and physiological responses, still other investigators have aimed towards further simplification by asking whether intention affects properties of water. This remains relevant to the question about health because the human body consists of 70% to 90% water, depending on age.<sup>vi</sup> Evidence from those studies supports the hypothesis that intention affects properties of water<sup>vii</sup>, but like many of the empirical studies in this domain, significant number of of the experimental reports have appeared in specialty journals and have gone unnoticed by significant number of medical researchers. One exception that has elevated the question about intention and water from the obscure to the infamous is the claim that water exposed to or "treated" by positive intentions results in frozen water crystals that are aesthetically more pleasing than similar crystals formed from "untreated" water.<sup>viii</sup> In an earlier pilot experiment, scientists tested this claim under double-blind conditions and found evidence in favor of the "intentional hypothesis" (p/40.001).<sup>ix</sup> The present study was a replication attempt conducted under triple-blind conditions.

## **HUMAN BODY AND BRAIN WATER CONTENT**

Up to 60% of the human adult body is water. According to H.H. Mitchell, *Journal of Biological Chemistry* 158, the brain, and heart are composed of **73% water**, and the lungs are about 83% water. The skin contains 64% water, muscles and kidneys are 79%, and even the bones are watery: 31%.<sup>x</sup> Each day humans must consume a certain amount of water to survive. Of course, this varies according to age and gender, and also by where someone lives. Generally, an adult male needs, about 3 liters (3.2 quarts) per day while an adult female needs about 2.2 liters (2.3 quarts) per day. All of the water a person needs does not have to come from drinking liquids, as some of this water is contained in the food we eat.

***Water serves a number of essential functions to keep us all going***

- A vital nutrient to the life of every cell, acts first as a building material.
- It regulates our internal body temperature by sweating and respiration
- The carbohydrates and proteins that our bodies use as food are metabolized and transported by water in the bloodstream;
- It assists in flushing waste mainly through urination
- acts as a shock absorber for brain, spinal cord, and fetus
- forms saliva
- lubricates joints

According to Dr. Jeffrey Utz, Neuroscience, pediatrics, Allegheny University, different people have different percentages of their bodies made up of water. Babies have the significant number of, being born at about 78%. By one year of age, that amount drops to about 65%. In adult men, about 60% of their bodies are water. However, fat tissue does not have as much water as lean tissue. In adult women, fat makes up more of the body than men, so they have about 55% of their bodies made of water. Thus:

- Babies and kids have more water (as a percentage) than adults.
- Women have less water than men (as a percentage).
- People with more fatty tissue have less water than people with less fatty tissue (as a percentage).

There just wouldn't be any you, me, or Fido the dog without the existence of an ample liquid water supply on Earth. The unique qualities and properties of water are what make it so imperative and basic to life. The cells in our bodies are full of water. The excellent ability of water to dissolve so many substances allow our cells to use valuable nutrients, minerals, and chemicals in biological processes.

Water's "stickiness" (from surface tension) plays a part in our body's ability to transport these materials all through ourselves. The carbohydrates and proteins that our bodies use as food are metabolized and transported by water in the bloodstream. No less imperative is the ability of water to transport waste material out of our bodies.

## PLACEBO EFFECT IN PSYCHIATRY AND PSYCHOTHERAPY

In order to summarize our research, the following three points can enact as discoveries:

- Besides a true medication effect and a true placebo effect, there are a large number of overlapping reasons why patients improve.
- Reasons for improvement include nonspecific psychotherapeutic effects, regression toward the mean, spontaneous response or remission, the Rosenthal effect, the Hawthorne effect, the halo effect, favorable changes in the stress-support dimension, and known or unknown use of other treatments.
- Clinicians should be aware that some of these mechanisms result in fleeting improvement or in false impressions of improvement only. They should make efforts to enhance the placebo response and recruit nonspecific psychotherapeutic effects and other mechanisms that result in true improvement.

**Table 1. Reasons Why Patients Improve With Medications<sup>a</sup>**

True medication effect
True placebo effect
Nonspecific psychotherapeutic effects
Regression toward the mean
Spontaneous response or remission
Rosenthal effect
Hawthorne effect
Halo effect
Decreased stress and/or increased family and social support
Use of other treatments

<sup>a</sup>With the exception of the true medication effect and the possible exception of the halo effect, all of these mechanisms are common to active drug and placebo groups in randomized, double-blind, placebo-controlled clinical trials. Some of these mechanisms may work both ways; that is, they may also worsen treatment outcomes.

Significant number of patients who receive pharmacotherapy improve with treatment. It is generally believed that some of this improvement is due to the specific action of the medication and that the rest is due to the placebo effect. This is not quite the case, because there are many additional reasons why treated patients get better, whether they receive active drug or placebo (Table 1). These reasons are discussed below to help clinicians better understand what drives improvement in clinical trials as well as in clinical practice.

The medication effect. This is the response that is mediated, hypothetically, by the mechanisms ascribed to the drug that is administered. Examples of such mechanisms include serotonin reuptake inhibition, dopamine D<sub>2</sub> receptor blockade, and neuroplasticity changes.

The medication effect is typically characterized as the extent to which response in the medication group exceeds that in the placebo group. Besides the medication effect, with the possible exception of the halo effect, the remaining mechanisms listed in [Table 1](#) are common to both drug and placebo. In a clinical trial, therefore, if depression ratings improve by 10 points with placebo and by 14 points with the trial drug, the medication effect is represented by the extra 4 points of improvement. Or, in the same trial, if 40% of placebo-treated patients meet response criteria at the end of the study, and if this figure is 55% with the trial drug, then the medication effect is represented by the extra 15% in the response rate.

However, this does not mean that medication accounts for only 4 points of improvement in depression ratings or that medication is responsible for response in only 15% of treated patients. It is quite likely that different patients have different capacities to respond to treatment, based on a variety of genetic, illness, environmental, and other factors; the effects of the different mechanisms listed in [Table 1](#) may overlap to varying and unmeasurable extents in the elicitation of this response. As an example, overlap in the effects of apomorphine and placebo has been demonstrated using positron emission tomography in Parkinson's disease patients.<sup>xi</sup>

The placebo effect. The placebo effect is the response mediated by the belief that the patient holds regarding the benefits of the administered treatment. Placebo mechanisms probably vary with the condition being treated. For example, in patients with pain, placebo mechanisms may involve the release of endogenous opioids<sup>xii</sup> and endogenous cannabinoids<sup>xiii</sup>; in patients with Parkinson's disease, placebo mechanisms may involve the release of dopamine.<sup>xiv</sup> Such mechanisms, in turn, may depend on expectancy and classical conditioning<sup>xv</sup>; after all, if the sound of a bell can trigger salivation or if the sight of food can stimulate the secretion of gastric juices, then perhaps the sight of a doctor's office, the swallowing of a colored pill, or the prick of a syringe may trigger the release of the appropriate chemicals for the relief of pain, anxiety, or depression. Nevertheless, what the placebo mechanism is in complex psychiatric disorders is poorly understood. How faith in medication, expectation, and classical conditioning cause

the release of opioids, cannabinoids, dopamine, or other chemicals (or how they trigger other mechanisms of response) is an even greater mystery.

The placebo effect probably adds to the medication effect; for example, when patients do not know that they are receiving treatment, the benefits of analgesic medications are less pronounced than when these medications are given in full view.<sup>xvi</sup> The placebo effect may be enhanced when patients are unblinded because of medication-induced adverse effects, and, conversely, the placebo effect may be diminished when patients believe that they are receiving placebo, such as when medications are free of discernible biological effects, whether favorable or adverse.

In clinical trials, the placebo effect may be enhanced by the hype surrounding the trial drug. The placebo effect may also be greater when there is more than 1 active treatment arm because patients realize that they have a higher chance of receiving active medication.<sup>xvii</sup>

In a clinical trial in which depression ratings improve by ten points with placebo, and in which 40% of placebo-treated patients improve, it is technically incorrect to conclude that placebo mechanisms are entirely responsible for the improvement, or the response rate noted. In fact, there are many reasons for improvement beyond those related to the placebo effect; these may overlap with the placebo effect to varying and unmeasurable extents in the elicitation of improvement. These reasons are listed in [Table 1](#) (in no particular order) and are discussed in the next section. Readers who wish to learn more about the subject are referred to the useful reviews of scholars the likes of Ernst and Resch, Oken, and Finniss.<sup>xviii</sup>

Nonspecific psychotherapeutic effects. The clinical interaction during initial and follow-up visits is usually emotionally supportive to the patient because clinicians and research teams are generally welcoming, display concern, spend time with the patient, and allow the ventilation of illness-related concerns; interactions are often characterized by other nonspecific, supportive psychotherapeutic elements as well, such as those described in the psychotherapy literature.<sup>xix</sup> Although there is no formal intention to provide psychotherapeutic support, such support is built into clinician-patient interactions and can result in clinical improvement.

Regression toward the mean. Patients who come for consultation are usually ill, not well, and patients who enter clinical trials tend to be more ill than average (those with milder illness are usually screened out, not recruited). Therefore, given that the severity of illness fluctuates



across time, there is a greater chance of illness fluctuation occurring in the direction of improvement than in the direction of worsening. This phenomenon is known as *regression toward the mean*.<sup>xx</sup>

In clinical trials, regression toward the mean may also be a spurious consequence of recruitment pressure when investigators inflate illness ratings and randomize patients who do not meet the inclusion criteria for illness severity. When such patients are correctly rated at the next visit, their illness scores appear to have "improved."

Spontaneous response or remission. It is well known that, given sufficient time and a favorable environment, episodes of unipolar depression<sup>xxi</sup> or bipolar illness<sup>xxii</sup> may spontaneously remit. As the duration of follow-up increases, progressively fewer patients with attention-deficit/hyperactivity disorder continue to meet diagnostic thresholds.<sup>xxiii</sup> Spontaneous fluctuations in the severity of obsessive-compulsive disorder<sup>xxiv</sup> may be so large as to meet criteria for response. Remission with the passage of time has also been described in dysthymia<sup>xxv</sup> and generalized anxiety disorder.<sup>xxvi</sup> Thus, with many psychiatric disorders, the longer the treatment duration (whether with active drug or placebo), the greater the chance that at least some patients will respond or remit as a function of the natural course of illness.

The Rosenthal effect. This is also known as the "Pygmalion effect" or the "expectancy effect."<sup>xxvii</sup> In therapeutic contexts, clinicians and raters may attach less importance to reported symptoms as the weeks pass because they expect patients to get better across time. This results in a false impression of improvement. Expectancy effects can also influence the quality of interactions between clinicians and patients, resulting in a greater placebo effect, or in greater psychotherapeutic effects and hence true improvement.

The Hawthorne effect. The Hawthorne effect is said to occur when the act of measurement influences the value of what is being measured.<sup>xxviii</sup> The hospital environment may be less stressful to the patient than a critical-hostile domestic environment; the process of rating may be laden with implicit supportive-appreciative interactions that make the patient feel transiently better; the patient may consciously or unconsciously provide socially desirable responses that indicate more improvement than is real. In all of these situations, the improvement is untrue or transient. Nevertheless, there is some overlap in concepts and mechanisms among the

Hawthorne effect,<sup>xxix</sup> the Rosenthal effect,<sup>xxx</sup> the Heisenberg effect,<sup>xxxi</sup> and nonspecific psychotherapeutic effects, as described in this article.

The halo effect. The term *halo effect* describes what occurs when improvement in one symptom domain results in expressions of optimism and well-being that decrease the adverse impact of symptoms in other domains even though those symptoms have not improved. For example, if an antidepressant drug is associated with sedation, the resultant improvement in the specific domain of sleep may magnify perceptions of treatment response, making the patient and/or rater attach less importance to the continued presence of other symptoms and thereby giving the false impression of general improvement. If placebo is associated with similar beneficial changes, it is possible that the halo effect may spuriously magnify improvement with placebo, as well.<sup>xxxii</sup>

Decreased stress and increased support. Entry into treatment, whether in routine clinical practice or in a clinical trial, is often associated with secondary life changes that may or may not have been suggested by the clinical team. Such changes include avoiding stressful situations, decreasing current commitments, receiving greater support from the family, and so on. Given the well-known role of the stress-support dimension in mental illness, there is every reason to expect that less stress and greater social and family support could assist in recovery.

Use of other treatments. Patients may use medications other than those advised by their clinicians. Such medications could include over-the-counter drugs, prescription drugs left over from earlier consultations, and treatments belonging to alternative medicinal systems. These treatments may be knowingly used by the patients or surreptitiously administered by family members. Any or all of these may contribute to improvement. Clinical trial protocols often permit the emergency use of additional medications to reduce insomnia, agitation, or other troublesome symptoms. These also contribute to lower symptom ratings.

## **HEALING THROUGH PRAYER, FAITH, AND GRATITUDE**

### ***Water as a scientific healer***

Water-filtered infrared-A (wIRA) is a special form of heat radiation with high tissue penetration and a low thermal load to the skin surface. wIRA corresponds to a major part of the sun's heat radiation, which reaches the surface of the Earth in moderate climatic zones

filtered by water and water vapour of the atmosphere. WIRA promotes healing of acute and chronic wounds both by thermal and thermic as well as by non-thermal and non-thermic cellular effects. Religious traditions across the world display beliefs in healing through prayer. The healing powers of prayer have been examined in triple-blind, randomized controlled trials. We illustrate randomized controlled trials on prayer and healing, with one study in each of different categories of outcome. We provide a critical analysis of the scientific and philosophical dimensions of such research. Prayer has been reported to improve outcomes in human as well as nonhuman species, to have no effect on outcomes, to worsen outcomes and to have retrospective healing effects. For a multitude of reasons, research on the healing effects of prayer is riddled with assumptions, challenges and contradictions that make the subject a scientific and religious minefield. We believe that the research has led nowhere, and that future research, if any, will forever be constrained by the scientific limitations that we outline. Clinically significant treatment gains have been observed with placebo in numerous disorders, including anxiety, depression, schizophrenia, obsessive-compulsive disorder, tardive dyskinesia, ischemic heart disease, cardiac failure, Parkinson's disease and even cancer, among a host of other conditions.<sup>xxxiii</sup> Relevant to the context of prayer and healing, the placebo response is influenced by personality traits and behaviors such as optimism,<sup>xxxiv</sup> response expectancy,<sup>xxxv</sup> motivational concordance (i.e., the degree to which the behavioral rituals of the therapy are congruent with the motivational system of the subject)<sup>xxxvi</sup> and degree of engagement with a ritual.<sup>xxxvii</sup>

Prayer may be associated with improvements that result from spontaneous remission, regression to the mean, nonspecific psychosocial support, the Hawthorne effect, and the Rosenthal effect.

Spontaneous remission and regression to the mean may occur coincidental to prayer. Nonspecific psychosocial support related to prayer may arise in group prayer settings. Improvements in all these contexts are true improvements. In contrast, in randomized controlled studies on the efficacy of prayer as a treatment, rated improvements that are not true improvements may also occur; explanations for such improvement include the Hawthorne effect and the Rosenthal effect. The Hawthorne effect refers to change that occurs as a result of the act of observation or measurement,<sup>xxxviii</sup> whereas the Rosenthal effect refers to change resulting from observer or rater expectancy.<sup>xxxix</sup> With regard to the former, the comforting

environment of the study setting or the conscious or unconscious wish of the patient to please may result in the report of less symptoms than actually exist. With regard to the latter, the tendency of the rater to expect symptom attenuation across time may result in the attachment of lower significance to reported symptoms.

***Prayer may result in benefits that are due to divine intervention***

Although the very consideration of such a possibility may appear scientifically bizarre, it cannot be denied that, across the planet, people pray for health and for relief of symptoms in times of sickness. Healing through prayer, healing through religious rituals, healing at places of pilgrimage and healing through related forms of intervention are well-established traditions in many religions.

Psychologists of various conventional schools have worked very hard to solve humans' psyche and related crisis issues. Yet, since most of them are nearly able to understand the human psyche, they took misleading decisions in their psychotherapy approach. This research aims to provide better solution to solve existing psychological conditions. In doing so, this research uses a literature study that takes psychotherapy texts of Risale-i Nur by Bediuzzaman Said Nursi as the object of the research. The Imani method (faith-based method) proposed by Nursi is a model of Islamic psychotherapy with the guidance of the Qur'an to understand the psychic elements of human fundamentally. This method has three techniques; self-devotion to the Qur'an and faith, maintenance of social relation, and maintenance of ukhuwwah (Islamic brotherhood) and unity. These three techniques are inseparable; all must be implemented in a simultaneous complexity and order. This method is fraught with applied faith practices, taking clients to cure the psychological conditions, both preventative and curative, improving the quality of their faith in God.<sup>xi</sup> According to attachment theory by John Bowlby, we know that having a secure attachment has been linked to the over-all wellbeing, coping, better mental health outcomes, enhanced self-esteem, and stronger relationship functioning. Thus, having a "healthy attachment" to God would also be linked to better psychological functioning<sup>xli</sup>

In one of the articles written on religiously integrated cognitive behavior therapy the intervention studies reflected that direct integration of client's religious and spiritual beliefs in therapy were proven to be effective, especially in reducing the effects of depression that those that are not religious clients. The article showcases the development and implementation of

Religiously integrated Cognitive Behaviour Therapy (RCBT) for individuals with chronic medical illness. The article clearly encapsulates such a treatment approach was developed for five major religions in the world such as Christianity, Islam, Hinduism, Judaism and Buddhism so that it could help individuals with depression from varied religious backgrounds. A number of empirical and theoretical articles strongly suggest integrating religious or spiritual approach into treatment plans.

Some intervention studies have also concluded that integration of client's religious/ spiritual belief system in therapy is least to say as effective as other secular treatment approaches.

Yet another article shares a scientific, comprehensive and applied spiritual method of psychotherapy is suggested. Religious Cognitive- Emotional Therapy (RCET) is the article has been introduced as a new form of cognitive therapy that takes the approach of using the basic religious beliefs and insights in psychotherapy. RCET was spoken of as a new integration of cognitive, humanistic, and existential psychotherapies that took into account the religious beliefs and insights of the clients in therapy. In the article RCET was said to be an effective method of psychotherapy for the treatment of clients who suffer from identity crisis, depression, and anxiety; with a further scope to be developed to address several other psychological disorders in a long run.

Treatment in psychiatry follows the bio-psychosocial model, and religion is considered to be one of the most important psycho-social factors in human life, especially in Muslims' population. Hence it is imperative to recognize how Islam can modify the treatment and prevention of different mental disorders. In Islam, religion and spirituality are not mutually exclusive as you cannot have one without the other.<sup>xlii</sup> From the biological perspective, different studies have found that being religious increases patients' satisfaction and adherence to treatment.<sup>xliii</sup> This can be applied to Islam in the way it helps with drug adherence through encouraging Muslims to look after their health by seeking advice and receiving treatment as health is considered a gift from God, which should be cherished.

On the contrary to what is commonly thought among Western societies that Muslims believe that mental illnesses are due to demons or bad spirit-related, it was in fact the Europeans in the Medieval Period who viewed mental illness as demon-related, Muslim scholars of that time,

including Ibn Sina (known in the West as Avicenna – the founder of Modern Medicine), rejected such concept and viewed mental disorders as conditions that were physiologically based.

*This led to the establishment of the first psychiatric ward in Baghdad, Iraq in 705CE by al Razi (one of the greatest Islamic physician). This was the first psychiatric hospital in the world. According to al Razi's views, mental disorders were considered medical conditions, and were treated by using psychotherapy and drug treatments.*

Sufism is a third model of Islamic counseling, in which a trained Sufi master (shaykh) guides the person to the path to God, Initially the person needs to show his/her desire to serve God and humanity and show a commitment to act according to the master's guidance. In his/her interaction with the master, this person expresses her/his concerns to the Sufi master who then deals with these concerns by directing the individual to the goal of detachment from the world and to the presence of God. This is usually done through the daily prayers and worship with continuous invocation of prayers and the names of God to elevate the spirit (zikr).<sup>xliv</sup> Sufism can have beneficial therapeutic outcomes. Even those scholars who do not agree with the traditional counseling for Muslim clients frequently consider Sufism as the basis of an original counseling model in Islam.<sup>xlv</sup> Hitherto, there are growing interests in Islamic psychotherapy from Western countries perspectives, which means incorporation of Islamic views of human nature while using different psychotherapeutic strategies and evidence-based treatments to help treating Muslim patients.

It has been widely known that psychotherapy is a unique art developed by the Western society during the 20th century; however, as we can find that psychotherapy was widely used in treating mental disorders all over the world for many ages before it has been started by the West.

During the era of Islamic civilization, the Islamic scholars had discussed the concept of psychology, psychiatry, psychotherapy, and their relationship to mental health. For example, Abu Bakar Muhammad Zakaria Al-Razi (925 CE) is the first Muslim physician who introduced the methods of psychotherapy and he had achieved a lot of success in discovering the definition, symptoms, and mental health. The discussion on mental health was published in his book entitled 'El Mansuri' dan 'Al Tibb al-Ruhani'.<sup>xlvi</sup> We think that Western practitioners can

enhance their ability to skillfully practice Islamically modified interventions through knowing the basic concepts of Islam and cultural norms among Muslims. Consultation with an Imam (a Muslim religious leader), a Muslim social work professional, or another respected community member can also be helpful.<sup>xlvi</sup> They can help identify concepts, which are consistent with Islam, as well as language from Islamic teachings such as halal and haram concepts in Islam, which mean what is allowed and what is prohibited, respectively.<sup>xlvi</sup> Hitherto, modifications have been added to different psychotherapeutic techniques in order to comply with Islamic values, for instance, *Motivation-enhanced psychotherapy* may be facilitated through the use of Islamic concepts, as patients' desire to address a given problem may be aided through the knowledge that this intervention enhances their relationship with God.<sup>xlvi</sup>

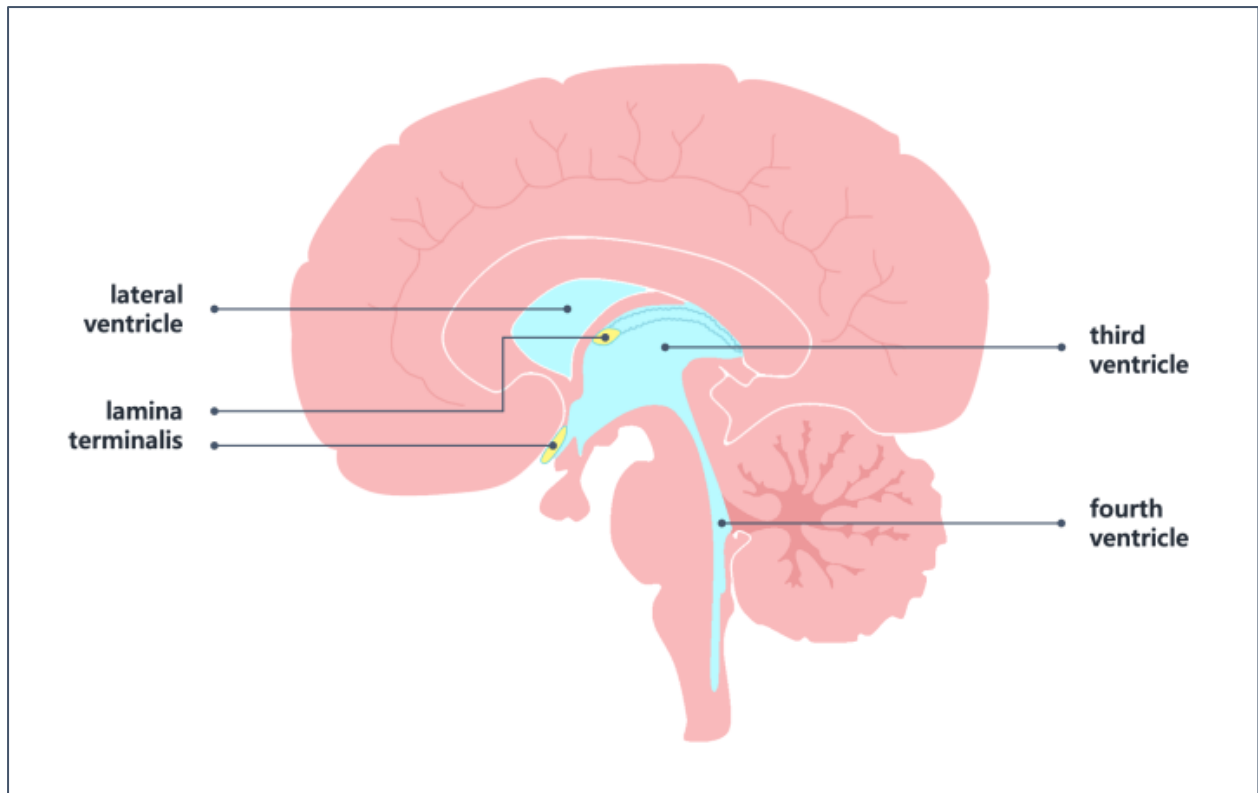
Another striking study was conducted on Muslim patients with schizophrenia in Saudi Arabia, which revealed spiritually modified cognitive therapy was either similar, or superior, to the results achieved with traditional cognitive therapy.<sup>1</sup> Although such research revealed how effective the cognitive interventions based on Islamic principles for Muslim clients was, there are concerns regarding various methodological issues used in these studies, particularly small sample sizes. This reflects the utmost need for more research in this area to make definitive statements about the empirical soundness of such approaches.<sup>li</sup> In spiritually modified cognitive therapy, we follow the cognitive restructuring model, where the therapist identifies the patient automatic thoughts and core beliefs. The process would then involve an evaluation and modification of automatic thoughts, followed by modification of core beliefs and assumptions. Modification occurs mainly through examining the evidence and looking for alternative explanation.<sup>lii</sup> Therapist can use cognitions from the faith based intervention and offer it as an alternative explanation to dysfunctional thoughts associated with a variety of conditions or disorders.<sup>liii</sup> There are several significant cognitive themes from the Islamic faith that can help to adapt the patients' cognitive errors. We have reviewed different studies and books and tried to explore the impact of Islamic values and beliefs on modification of the patient cognitive errors, and how these Islamic values can even help in prevention of different psychiatric disorders.

## **PRAYER, WORSHIP REDUCES THE BLOOD PRESSURE AND POSITIVELY CHANGES THE FRONTAL CORTEX**

When your body starts to run low on water, a number of changes take place: for one, the volume of your blood decreases, causing a change in blood pressure. Because the amount of salt and other minerals in your body is staying constant as the volume of liquids decreases, their relative concentration increases (the same number of particles in a smaller volume means that the particles are more concentrated). This concentration of particles in bodily fluids relative to the total amount of liquid is known as osmolality, and it needs to be kept in a narrow range to keep the cells in your body functioning properly. Your body also needs a steady supply of fluids to transport nutrients, eliminate waste, and lubricate and cushion joints. To some extent, the body can compensate for water depletion by altering heart rate and blood pressure and by tweaking kidney function to retain more water. For you, albeit the significant number of noticeable indication that your body is running low on fluids is likely the feeling of thirst, as you increasingly feel like you need to drink some water.<sup>liv</sup>

So how does your body know that these responses are necessary, and how are they coordinated across so many different organ systems? Scientists are still trying to uncover how this process works, but research over the past several decades indicates that a highly specialized part of the brain called the lamina terminalis is responsible for guiding many of these thirst responses (Figure 1). Brain cells within the lamina terminalis can sense when the body is running low on water and whether you've had anything to drink recently. When researchers manipulate this brain region, they can also drive animals to seek out or avoid water, regardless of how hydrated that animal might be.



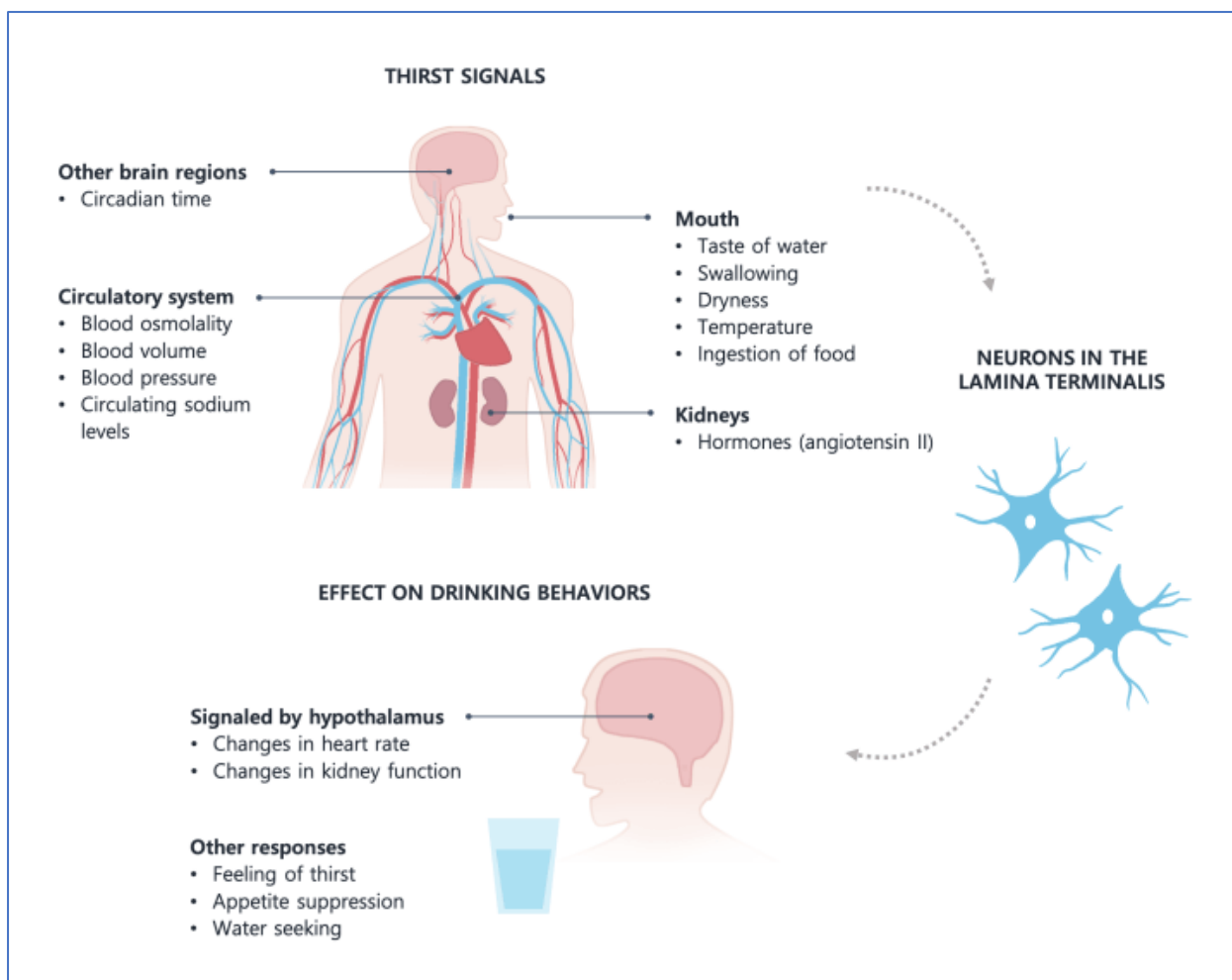


**Figure 1: Brain regions controlling thirst.** The lamina terminalis (yellow) is a series of interconnected brain structures that act as a central hub to control fluid levels in the body. Some cells in the lamina terminalis are adjacent to large, fluid-filled compartments in the brain, called ventricles (blue). When the body begins to run low on water, the composition of the body's fluids (including the fluid in the brain's ventricles) starts to change. The lamina terminalis neurons that border the ventricles can sense changes in the ventricular fluids, giving a snapshot of whether the body has enough water. These neurons also receive messages from other parts of the brain to give an even more complete picture of the body's water needs.

The lamina terminalis is located towards the front of the brain and occupies a prime location just below a fluid reservoir called the third ventricle. Unlike much of the rest of the brain, many cells in the lamina terminalis aren't guarded by a blood-brain barrier. This barrier prevents many circulating factors in the blood and other fluids from interacting with cells in the brain, offering the brain protection against potentially dangerous invaders like certain bacteria, viruses, and toxins. However, the blood-brain barrier also cuts the brain off from many circulating signals that might hold useful information about the body's overall status. Because certain cells in the lamina terminalis lie outside the blood-brain barrier, these cells can also

interact with the fluid in the third ventricle to keep tabs on factors that indicate whether the body needs more or less water. In particular, these cells can monitor the fluid in the ventricle to determine its osmolality and the amount of sodium present.

When other parts of the brain detect information that's relevant to understanding the body's water needs, they frequently pass it along to the lamina terminalis, as well (Figure 2). In this way, the lamina terminalis also collects information about things like blood pressure, blood volume, and whether you've eaten recently (even before food can cause any change in circulating salt or water levels, your body tries to maintain a balance between these factors by encouraging you to drink water every time you eat). Information from the part of the brain that controls the circadian clock also gets forwarded to the lamina terminalis, encouraging animals to drink more water before sleeping to avoid becoming dehydrated during long periods of sleep. Collectively, this information gives the lamina terminalis the resources needed to make a call about whether the body needs more or less water. In turn, cells in the lamina terminalis project to many other areas of the brain, sending out their verdict about current water needs. Albeit scientists are still trying to figure out exactly how information from the lamina terminalis affects other brain regions, it's clear that this output can influence an animal's motivation to seek out water, as well as physiological factors like kidney function and heart rate (Figure 2).



**Figure 2: Thirst signals and their effects.** Neurons in the lamina terminalis receive many different messages about the body's water needs. Thanks to their location next to ventricles in the brain, they can directly sense key indicators of water need like sodium levels and osmolality (the ratio of salt particles to a given amount of liquid). They also receive information about what time of day it is from another brain region, as well as cues from the mouth and kidneys. Neurons in the lamina terminalis can pool all of this information to determine whether the body needs more or less water. If it needs more, they can trigger feelings of thirst and appetite suppression. If it needs less, the brain will send signals telling you to stop drinking. The lamina terminalis also sends messages to a brain region called the hypothalamus. In turn, the hypothalamus can affect heart rate or urge the kidneys to retain more or less water.

## CONCLUSION

Antidepressant response rates are higher in comparator trials as compared to placebo-controlled trials. These findings have important implications for combined medication and psychotherapy trials that use placebo-controlled medication conditions because the response rates from these conditions are likely to be lower than those from unblinded conditions.

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