Revista Brasileira em Promoção da Saúde

e-ISSN:1806-1230

Original Article

DOI: 10.5020/18061230.2022.12009

Implications of the Quantum Information Homeostasis technique for physical and emotional health

Implicações da técnica Homeostase Quântica Informacional sobre a saúde física e emocional

Implicaciones de la técnica Homeostasis Quántica Informacional sobre la salud física y emocional

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ABSTRACT

Objective: To assess the benefits of the Quantum Information Homeostasis (QIH) technique for the physical and emotional health of adults. **Methods:** A qualitative and quantitative randomized experimental study with a control group, pre-test and post-test was carried out in the city of Campinas, São Paulo. Data were collected between July and September 2018 from 50 adults aged 45 to 60 years, and the instruments used assessed sociodemographic and physical and emotional health variables. For data analysis, we used either the chi-square test or the Fisher's exact test. To compare the numerical variables between the two groups, the Mann-Whitney test was used, and to compare the categorical variables, the Cochran test followed by the McNemar test was used. The level of significance adopted for the statistical tests was adjusted to p<0.05 and content analysis was used for qualitative data. **Results:** The results showed statistically significant gains in individuals in group 1, who received the QIH treatment, in the assessments for physical activity (p=0.046), anxiety score (p=0.013), emotional distress (p=0.008 and p= 0.019) and dizziness (p=0.021), when compared to group 2, controls. **Conclusion:** The data obtained allow us to state that QIH provides benefits for the physical and emotional health of adults. Also, its use could make people's daily lives better, reducing the cost of long and expensive treatments.

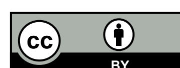
Descriptors: Homeostasis. Complementary therapies. Middle-aged person. Longevity.

Registration Number (ReBEC):RBR-47m37gx

RESUMO

Objetivo*: Avaliar os benefícios da técnica Homeostase Quântica Informacional (HQI) sobre a saúde física e emocional de pessoas adultas.* ***Métodos****: Estudo experimental randomizado quali-quantitativo com grupo controle, com pré-teste e pós-teste, realizado na cidade de Campinas, São Paulo, Brasil. Obtiveram-se os dados entre julho e setembro de 2018 com 50 adultos na faixa etária de 45 a 60 anos, e os instrumentos utilizados avaliaram variáveis de natureza sociodemográfica, de saúde física e emocional. Para análise dos dados utilizou-se o teste qui-quadrado ou o teste exato de Fisher. Para comparação das variáveis numéricas entre os dois grupos utilizou-se o teste de Mann-Whitney e para comparação das variáveis categóricas utilizou-se o teste de Cochran seguido do teste de McNemar. O nível de significância adotado para os testes estatísticos ficou ajustado em p<0,05 e para os dados qualitativos utilizou-se a análise de conteúdo.* ***Resultados****: Os resultados mostraram ganhos estatisticamente significantes nos indivíduos do Grupo 1, que receberam o tratamento de HQI, nas avaliações para atividade física (p=0,046), escore de ansiedade (p=0,013), de sofrimento emocional (p=0,008 e p=0,019) e de tontura (p=0,021), quando comparados com o Grupo 2, controle.* ***Conclusão****: Os dados obtidos permitem afirmar que a HQI proporciona benefícios para a saúde física e emocional de pessoas adultas. Bem como o seu emprego poderia tornar melhor o dia a dia das pessoas, diminuindo o custo de tratamentos prolongados e onerosos.*

Descritores*: Homeostase; Terapias complementares; Pessoa de meia-idade; Longevidade.*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Received on: *02/24/2021*
Accepted on: *03/29/2022*

RESUMEN

***Objetivo**: Evaluar los beneficios de la técnica Homeostasis Quántica Informacional (HQI) sobre la salud física y emocional de personas adultas. **Métodos**: Estudio experimental randomizado cuali-cuantitativo con grupo control, pre y postest realizado en la ciudad de Campinas, São Paulo, Brasil. Se ha recogido los datos entre julio y septiembre de 2018 con 50 adultos en la franja de edad entre 45 y 60 años. Los instrumentos utilizados evaluaron las variables de naturaleza sociodemográfica, salud física y emocional. Se utilizó la prueba chi-cuadrado o exacto de Fisher para el análisis de los datos. Para la comparación de las variables numéricas entre los grupos se utilizó la prueba de Mann-Whitney y para la comparación de las variables categóricas se utilizó la prueba de Cochran seguida de la prueba de McNemar. El nivel de significancia adoptado para las pruebas estadísticas fue de p<0,05 y para los datos cualitativos se utilizó el análisis de contenido. **Resultados**: Los resultados mostraron ganancias estadísticamente significantes para los individuos del Grupo 1, que han sido tratados con la HQI, en las evaluaciones de actividad física (p=0,046), la puntuación de ansiedad (p=0,013), el sufrimiento emocional (p=0,008 e p=0,019) y de vértigo (p=0,021) comparados con el Grupo 2, el control. **Conclusión**: Los datos permiten afirmar que la HQI proporciona beneficios para la salud física y emocional de personas adultas, así como su utilización podría mejorar el día a día de las personas disminuyendo el coste de los tratamientos a largo plazo y costosos.*

***Descriptores**: Homeostasis; Terapias complementarias; Persona de Mediana Edad; Longevidad.*

INTRODUCTION

Both psychic and emotional illnesses, which not rarely affect severely the body, spread across all nations of the world, challenging traditional medicine, drawing attention to the disorders caused by the intense transformations that took place in the second half of the 20th century, and putting paradigms that no longer find sustainability in the face of the new reality in jeopardy[1]. And in this context, psychosocial diseases have been prevalent.

Some of the main disabling diseases are depressive disorders, which can be divided into mild, moderate or severe[2,3] and ranked first among women and second among men. In general, diseases were strongly influenced by population growth and aging[4]. In global terms, mental disorders contribute to 13% of the disease burden and it is estimated that depressive disorders will make up the largest share of these disorders in 2030[5].

Recent studies have shown that depressive disorders are among the 10 most common diseases in individuals between 10 and 49 years old[4]. In addition, when comparing data on the main diseases observed between 1990 and 2019, it is noted that while the incidence of other diseases, such as hypertension and asthma, has decreased, depressive disorders have increased in practically all age ranges. In people aged 10 to 24 years, depressive disorders went from the eighth to the fourth place; in the age range between 25 and 49 years old, they went from the eighth to the sixth place and, in those between 50 and 74 years old, they went from the nineteenth to the fourteenth place[4]. As a consequence of depression, several changes in physical health can occur, including a propensity for physical inactivity that is related to several comorbidities[3].

Depression is a brain disorder in which changes in brain functioning can have a major effect on the body, such as intensified pain, chronic fatigue, decreased appetite, insomnia, among other issues[6]. There is a relationship between depressive symptoms and the number of painful body areas in women who suffered from fibromyalgia[7]. In addition, 20.2% of depressive patients suffer from chronic pain, while only 9.3% of the normal population has such disorder[8]. The great contemporary challenge is not only to cure the symptoms resulting from a psychosocial imbalance, but also to discover and eliminate its cause.

In addition to the medical risk placed by the occurrence of the new disease caused by the new coronavirus (COVID-19), experts have registered an enormous psychological and social impact[9]. Japanese scientists have shown that fear of the unknown and uncertainty can lead to mental disorders such as anxiety, depression, somatization and atypical behaviors such as increased consumption of alcohol and tobacco[10]. In this moment of uncertainty and high population demand for a treatment that provides them with the necessary medical help, integrative medicine emerges as an alternative for a more humanized care that has been recognized worldwide[11,12]. Studies carried out in other countries have shown that such practice is really cost-effective[12,13].

In Brazil, Integrative and Complementary Practices (*Práticas Integrativas e Complementares – PICs*) have been adopted by the Unified Health System (*Sistema Único de Saúde – SUS*) through the National Integrative and Complementary Practices Policy (*Política Nacional de Práticas Integrativas e Complementares – PNPIC*)[14], which was present, in 2008, in 25% of Brazilian municipalities. However, the implementation of integrated practices within the SUS has received little support. Researchers also point to the fact that integrative practices have not always

been covered by PNPIC, despite being identified as strategies also popularly used for self-care as a complement to health care[15].

In this context, new possibilities for integrative practices emerge over time, such as the newly-developed technique called Quantum Information Homeostasis (QIH), which has shown potential for integration with traditional medicine[16]. Before that, in 2003, the first author and creator of the technique[16] found himself in a condition of severe depression, which lasted for two years and seven months, during which he underwent several treatments (unpublished data). Over time, he realized that the entire treatment only acted on the consequences of depression and not on the causes. Therefore, he started several studies in the areas of integrative therapies, theories of quantum physics, traditional Chinese medicine and other subjects. Being his own subject of study, he observed that it was possible to seek out and eliminate the information that started depression. Thus, the QIH was born from this experience and based on the studies carried out by the researcher[17-21].

Homeostasis because in Greek *hómoios* means similar and *stasis* means to stand still. The combination of the two words means to be in stability or in balance; quantum because it was based on the quantization of energy postulated by quantum physics; information because it is based on the Holoinformational Theory of Consciousness[17]. In the view of QIH, the disease is nothing more than a disruption of homeostasis produced by an alteration of the informational set of consciousness, leading to somatization, that is, to the breakdown of the stability of this system. Within the scope of this technique, it is postulated that certain information is capable of breaking the stability of the information system so that in order to stay healthy it is necessary to eliminate it, possibly causing all other levels of information manifestation, including the material level (the body), naturally return to stability[16].

This technique is based on two main pillars: the *it from bit* theory[18], whose author, when thinking about quantum mechanics, made analogies of the way a computer works and the functioning of the universe. These studies led him to conceptualize that information must be at the center of physics, just as it is at the center of a computer, that is, the universe and everything it contains (it) can arise from the myriad of yes-no mediation choices (bits). And the second pillar would be the Holoinformational Theory of Consciousness (HTC)[17], in which there is a vision of a holoinformational continuum, of a fundamental generative order, with a creative quantum information flow, permeating the entire cosmos, allowing the understanding of the nature of the universe as an indivisible self-organizing intelligent totality, that is, a consciousness.

Based on these pillars and on the previously cited studies[17-21], a method[16] was developed based on the paradigm that everything is information, which becomes energy and which originates matter, in a quantized way, with the only difference that each has a distinct quantizer package. Therefore, by transforming information, a different reality can be molded in matter. In summary, QIH is a technique that seeks to teach people to acquire self-control of emotional, mental and physical health, allowing the individual, through their consciousness, to access and eliminate (transform) traumas that break the stability of their system (body + mind + emotion).

This technique began to be worked on in 2007 and in 2015 it was already possible to find publications as results obtained with the application of QIH in older people, generating a significant improvement in their emotional, mental and physical health[16]. To continue the studies on this therapy, the present study aimed to assess the benefits of the Quantum Information Homeostasis (QIH) technique for the physical and emotional health of adults.

METHODS

This is a randomized clinical trial that used a qualitative and quantitative approach to assess a method of therapy with adults using a control group with pre-test and post-test carried out between July and September 2018 in the city of Campinas, São Paulo.

Volunteer adults aged between 45 and 60 years participated in the study. Ordinary citizens were used as participants recruited from advertising calls and who showed free interest in participating in the research. Half were part of Group 1, submitted to the QIH treatment, and half were part of Group 2, the control group. The assessment of Group 1 took place through a pre-test, then individual consultations using the QIH technique, and a post-test; and Group 2 underwent pre- and post-test assessment, but did not receive the technique. All the participants were numbered according to the order of arrival in the pre-test. After that, with the numbers placed on a randomization website, a random distribution was carried out in the aforementioned groups.

For inclusion in the study, participants needed to meet the following criteria: not having been treated with the QIH technique before; not having taken any course on QIH; living in the metropolitan region of Campinas, Sorocaba, Jundiaí and São Paulo, with availability to travel to Campinas once a month for individual consultations. Finally, the participants who understood and agreed with the research signed the Informed Consent Form.

Thus, adults who were ineligible for inclusion in the study were those with severe cognitive deficit suggestive of dementia; those who were bedridden, either temporarily or permanently; patients with severe sequelae of Cerebral Vascular Accident (CVA), with localized loss of strength; those with severe or unstable Parkinson's disease; adults who were in the terminal stage of any disease; those undergoing treatment for cancer, except for skin cancer; those with visual or hearing impairments; and people who had seizure problems. Adults unable to attend the place where the study was carried out were considered ineligible, either due to any of the above criteria or due to access difficulties.

Data were collected using a printed form that contained the instruments for assessing the variables of interest: sociodemographic, physical, emotional and social health variables. Part of the instruments was based on previous research[22]. These instruments were part of a national multicenter study[23]. Thus, for this research, we chose to follow this model of instruments.

For each of the variables, the following were considered: 1) sociodemographic variables: sex, age, personal income, education, marital status and occupation; 2) physical health variables: vision, hearing, digestive system, respiratory system, nervous system, bone and muscular system, weight, sexuality, life habits (smoking, alcoholism, physical activity) and subjective health assessment, with a total of 38 questions; 3) emotional variables: global satisfaction with life and its domains (8 questions); list of negative emotions (40 items: agitation, anguish, anxiety, sadness, fears...).

In the post-test measure, subjective questions were included: do you think that having participated in the consultations helped or changed any aspect of your life? If so, I would like you to say which aspects.

Before starting the initial interview with each participant, the interviewers read the informed consent to the participant and, after ensuring that the instructions had been understood, invited them to sign it before performing the pre-test in July 2018. After carrying out the pre-test, the participants learned about which group they would belong to (1 or 2), in addition to having scheduled the date of the first consultation with the participants of Group 1.

Individual consultations for the application of the Quantum Information Homeostasis technique with Group 1 took place once a month, in July, August and September 2018. Group 2 received remote monitoring (by phone or WhatsApp) once a month. In September 2018, the post-test took place with all the participants.

The individual sessions lasted 2 hours each and were divided into 3 parts: 1) at the beginning of the session, a survey and analysis of the participant's main complaint and the chronology of diseases was carried out. After this survey, reasoning was based on the QIH method. 2) The researcher carried out an investigation of the life of the participant, looking for specific moments and situations that could have generated the initial complaint, with this process taking place through questions through which the participant was led to remember moments they had experienced, investigating the information generated by these experiences. 3) Finally, the researcher and the participant issued sentences (phrases) using the information quantizing codes associated with the experiential contents raised in step 2, eliminating the negative information that these experiences provided to the participant. In a concise way, this process is summarized in remembering the facts that generated negative information (feelings, emotions, sensations, beliefs, conditioning, etc.) and issuing sentences (quantum command) for each information located.

For greater reliability of the data, the research worked with blind investigators: the examiner who performed the consultations did not have access to the data collection protocol and did not know in advance who would be part of Group 1 and Group 2; the examiners who applied the data collection protocols did not know which participants would be assigned to each group. Thus, all examiners previously received training to perform their role in this research.

As for the data analysis, the sample profile, according to the variables under study, was broken down into frequency tables of categorical variables (sex, education, etc.), with absolute frequency (n) and percentage (%) values and descriptive statistics of numerical variables (age, income, etc.), with mean values, standard deviation, minimum and maximum values, median and quartiles.

To compare the categorical variables between Group 1 and Group 2, we used the chi-square test or Fisher's exact test in the presence of expected values lower than 5. To compare the numerical variables between the two groups, we used the Mann-Whitney test due to the absence of normal distribution of the variables and the size of the groups.

For the comparison of the categorical variables between the two assessments, the Cochran test for related samples was used and then the McNemar test. To compare the numerical variables between the two assessments, in the total sample and in each group, the Friedman test for related samples was used, followed by the Wilcoxon test due to the absence of normal distribution of the variables. The level of significance adopted for the statistical tests was adjusted to 5%, that is, $p<0.05$[24,25]. Statistical analysis was performed using the computer software SAS (Statistical Analysis System)[26].

To obtain qualitative data, we used content analysis[27] of records related to self-reports collected through open-ended questions during post-test measurements. In this analysis, the presence or absence of a given content feature

or a set of features in a given message fragment served as information. Content analysis allows several ways of reading the data, delimiting, for this research, the use of categorical analysis, which works by dividing the text into categories or themes[27]. The categories that emerged from the collection are listed in three groups: 1) aspects of health and diseases; 2) coping with emotions and everyday situations; 3) physical capacity and mobility.

The project was approved by the Ethics Committee of Investiga – Research Institutes, with Approval No. 2.634.126.

RESULTS

Of the 58 participants who enrolled, 8 were excluded because they preferred to undergo other therapeutic processes, which could interfere with the results. Therefore, the final sample consisted of 50 participants, the majority being female (n=40; 80%), with an almost homogeneous distribution in relation to age: 30% aged 50 to 54 years (n=15), 32% aged 55 to 59 years (n=16) and 38% aged 45 to 49 years (n=19). Most were married (n=31; 62%), with a higher education degree (n=28; 56%) and were employed at the time of the research (n=39; 78%). Most participants (n=43; 86%) answered the question about the amount of their monthly income, with up to three minimum wages reported by just over half of them (Table I).

Table I - Characterization of the Quantum Information Homeostasis (QIH) research participants (n=50). Campinas, São Paulo, 2018.

Variables	n	%
Sex		
Women	40	80.00
Men	10	20.00
Age		
45-49	19	38.00
50-54	15	30.00
55-59	16	32.00
Marital status		
Single	10	20.00
Married	31	62.00
Divorced/separated	9	18.00
Currently employed		
Yes	39	78.00
No	11	22.00
Note: 10 were retired		
Income (Minimum wage BRL 998)		
0-3	23	
4-6	9	
7-10	7	
Over 10	4	
Individual income: n=45; mean BRL 4884.10; min BRL 0.00; Max BRL 20,000.00		
Minimum wage: n=45; mean 4.89; min 0.00; Max 20.04		
Education		
Primary	2	4.00
Secondary	10	20.00
Higher	28	56.00
Incomplete postgraduatation	7	14.00
Complete postgraduation	3	6.00

Min: minimum; Max: maximum

The 50 participants presented themselves in two groups, with 25 people each. When comparing the data for all the variables contained in the assessment instruments, there weres statistically significant differences in Group 1, which did not happen with Group 2, for the following items: physical activity (p=0.046), score of anxiety (p=0.013), emotional distress (p=0.008 and p=0.019) and dizziness (p=0.021) before and after the application of the QIH.

Figure 1 shows the results obtained for physical activity in the two groups assessed, at the beginning and at the end of the experiment. A statistically significant increase in physical activity by the participants of Group 1 was detected by the Mcnemar test (p=0.046). However, the same result was not observed in Group 2.

Similar results were found when assessing the anxiety score. Participants in Group 1 showed a statistically significant decrease in anxiety as measured by the Friedman test (p=0.013) (Figure 2). On the other hand, individuals in Group 2 did not show changes in the level of anxiety assessed at the beginning of the study.

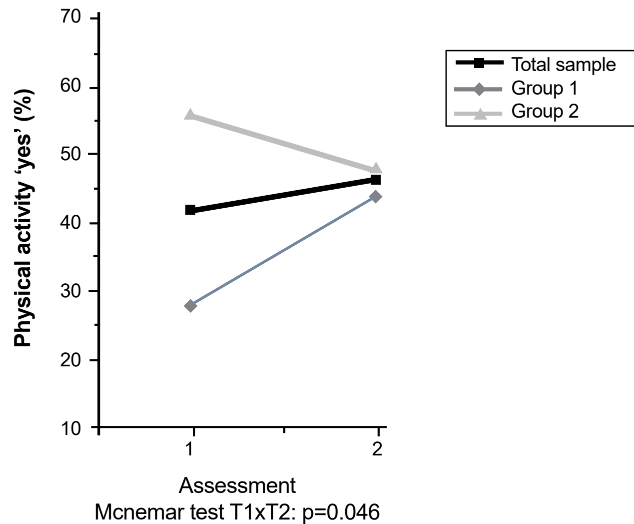

Figure 1 - Physical activity among participants in the Quantum Information Homeostasis (QIH) research (n=50). Campinas, Sao Paulo, 2018.

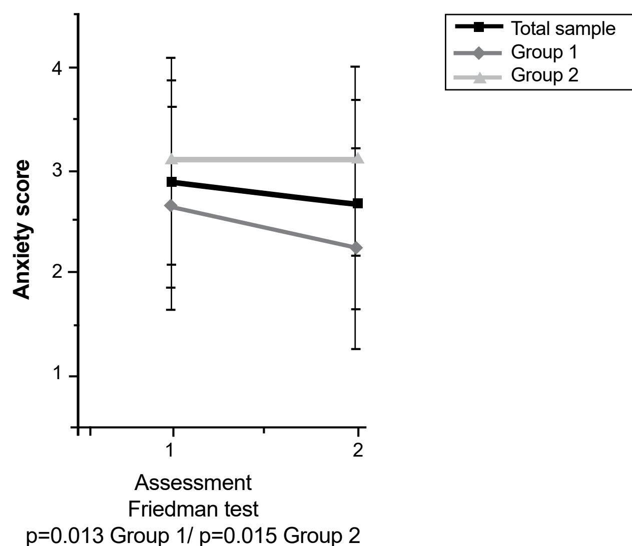

Figure 2 - Anxiety score among participants in the Quantum Information Homeostasis (QIH) research (n=50). Campinas, Sao Paulo, 2018.

Emotional distress scores, analyzed by two tests in both groups, the Friedman test followed by the Wilcoxon test, showed a statistically significant difference (p=0.008 and p=0.019, respectively) only for Group 1 (Figure 3). Individuals in this group showed a large decrease in emotional distress, while the distress of individuals in Group 2 remained constant.

The results of the assessment regarding the dizziness score can be seen in Figure 4, which shows a significant reduction for the total sample (p=0.021). Participants in Group 1 showed an evident decrease in the sensation of dizziness, which did not occur with Group 2.

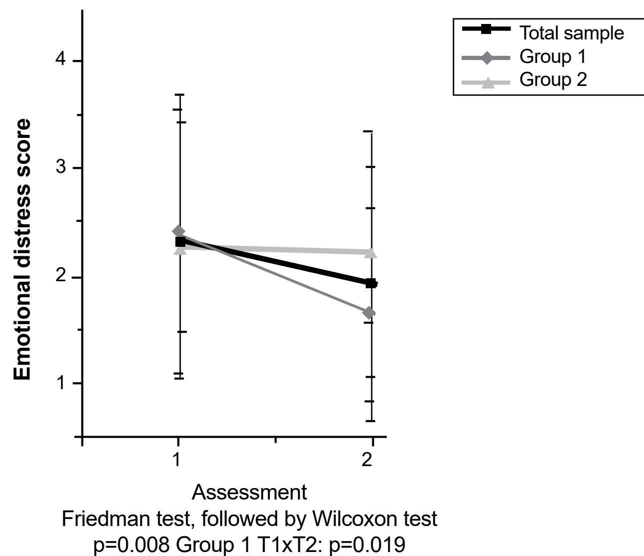

Figure 3 - Emotional distress score among participants in the Quantum Information Homeostasis (QIH) research (n=50). Campinas, Sao Paulo, 2018.

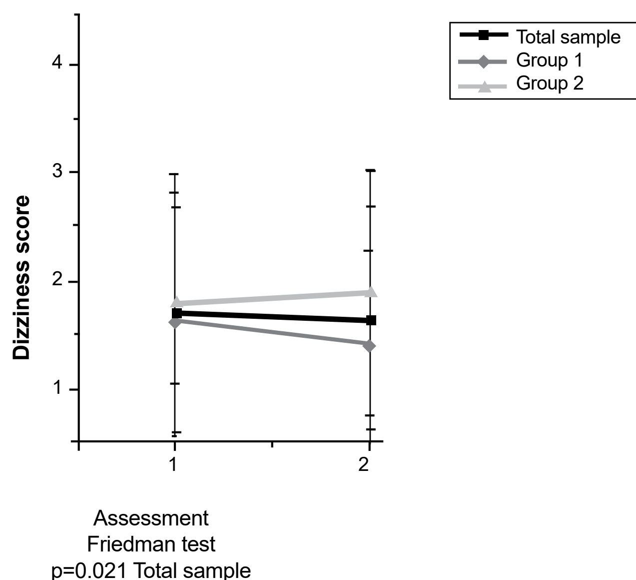

Figure 4 - Dizziness score among participants in the Quantum Information Homeostasis (QIH) research (n=50). Campinas, Sao Paulo, 2018.

The results of the assessments carried out showed gains, characterized by a relevant improvement in the health of the participants of Group 1, while there was no relevant change in Group 2. After being treated with the QIH, Group 1 obtained improvements in all aspects presented at the beginning of the research, with an increase in physical activity and a decrease in anxiety, emotional distress and dizziness. When interviewed, 100% (n=25) of the participants in

Group 1 considered the QIH method to be adequate and efficient and 92% (n=23) had their expectations met. The majority (n=24; 96%) felt that QIH treatment not only contributed to an overall improvement in their health, but also induced a positive change in their lives.

With regard to the emerging categories, the results are presented in three groups: 1) aspects of health and diseases; 2) coping with emotions and everyday situations; 3) physical capacity and mobility.

The participants' testimonials are described below after analyzing the topics that were most relevant together with the results of the statistical analysis.

Aspects of health and diseases:

> *"In the first consultation with the QIH technique, I was going into depression. I was able to reverse the process and regain my balance." (Testimonial 1)*
>
> *"Being able to access the facts that generated negative information and eliminate them effectively, in a short time, was fundamental for my recovery. I resolved issues that I thought had no solution and I continue to experience a new reality. I have discovered, for sure, a path to health that depends only on my dedication and will." (Testimonial 2)*
>
> *"My health improved and my blood pressure, which was high, normalized and I stopped taking medication." (Testimonial 3)*
>
> *"I was taking several drugs to control diabetes and I was at a stage where the dosages of these drugs needed to be increased, but after the QIH treatment I improved to the point where I could reduce not only the dosage but the amount of drugs. I have it under control." (Testimonial 4)*

It should be noted that the consultations with QIH took place in a complementary way to the conventional treatments that the participants were already receiving and if there was any change in the medication, this was due to medical advice.

Coping with emotions and everyday situations:

> *"I noticed a great release of obsolete burdens/emotions and, above all, a recovery of my self-love and self-esteem. They brought me an efficient tool to cope with situations." (Testimonial 5)*
>
> *"It was really good. It helped me to see life differently. I feel more secure about myself. I am not shaken by the current situation." (Testimonial 6)*
>
> *"I now have the peace of mind to lift the rug and see what's underneath it because I know I can fix it." (Testimonial 7)*
>
> *"Today I have greater emotional control in difficult situations, mainly related to fears." (Testimonial 8)*

Physical and mobility capacity:

> *"I went back to work and walked normally, I no longer have pain due to my osteoarthritis." (Testimonial 9)*
>
> *"I'm feeling great and happy with myself. Physically I improved a lot. Since 08/28/2018 I have not been using the cane at the same frequency as before. I no longer have the weakness in my legs since that day." (Testimonial 10)*

DISCUSSION

As this is the first study on the effectiveness of the QIH technique, it was decided to discuss the results in the light of studies involving integrative and complementary therapies in health within the scope of the variables analyzed throughout the research. It is important to emphasize that after being treated with the QIH, Group 1 of the present study obtained improvement in all the analyzed items.

QIH is a relatively new technique developed in 2007[16] and considered an interesting alternative as an integrative technique. Thus, the potential for the use of alternative techniques aimed at integrativity in the field of health has been recognized and applied in several countries around the world[11-13]. The main objectives of this integrativity are to combine the best in different traditions and welcome the patient with a focus not only on the body but also on the mind, spirit and culture, thus providing care and healing with the active participation of several professionals and the patient, taking into consideration their desires and needs as a basis for decision making[13].

Such practices[28] do not require sophisticated technological resources, offer less risk of side effects when compared to conventional treatments and require few financial resources, thereby making health care less expensive and improving its quality, in addition to providing good results[28]. In Brazil, these practices have been officially recognized for more than a decade, on the occasion of the publication of PNPIC[14] by the Ministry of Health. This publication aimed to promote the rationalization of health actions, aiming to encourage innovative alternatives capable of contributing to the sustainable development of communities and fostering social and political involvement in the implementation of health policies. However, despite having acquired greater visibility, in a comprehensive review on this topic, the access and use of these practices within SUS was analyzed and there were important gaps in the general scenario: services are still provided in an incipient way and there is little data on the specific techniques to be adopted, thus constituting a limitation for a more conclusive assessment. On the other hand, positive effects were observed in users and services that adhered to the use of these practices, even with the challenges faced for their implementation, access and use. The need to train qualified professionals for their application was also observed[28].

When considering such information about integrative practices, the present study demonstrated that it is possible to improve people's health in important fields, especially with regard to personal well-being provided by the reduction of emotional suffering and by the increase in the practice of physical activity that, invariably, may be related to depression[3,7]. Therefore, it is possible to contribute with important information for the decision making of those involved in the development of public policies in the health field related to the adoption of integrative practices.

Although the ideal level has not yet been reached, integrative techniques have demonstrated their value in the treatment and recovery of people's health. The QIH technique, assessed in the present study, showed a promising potential to be used in this category of PICs. The research participants' testimonials presented above corroborate this observation. Furthermore, considering that depression is one of the main ailments that plague humanity worldwide[2,3,5], nowadays, a tool that helps traditional medicine to achieve its cure would be very auspicious.

The results obtained here showed statistically significant differences in terms of increased practice between the pre-test and the post-test for Group 1. The relevance of these results can be noted when considering the importance of physical activity as a protector of several diseases and health problems[29,30]. Thus, a study carried out with adults and older people in Southern Brazil concluded that moderate physical activity provided protection against stress, while vigorous physical activity was a protective factor for obesity, hypertension and diabetes in adults and older people[30]. Another study showed that patients with a higher level of physical activity tended to stay hospitalized for less time when compared to less active patients[31]. Thus, improvements in people's health were identified in the testimonials {3 and 4} of the participants of this research.

Another relevant point of the current research was the decrease in anxiety in people who had high levels of anxiety. Studies using complementary therapies have found effectiveness in controlling and improving anxiety. In the literature review[32] on the use of auriculotherapy in the treatment of disorders related to stress and anxiety, the evidence proved the technique's effectiveness in adults and older individuals. In a randomized clinical study[33] on the effectiveness of massage and reiki in reducing stress and anxiety in adults, it was observed that there was a significant reduction in the intervention groups compared to the control group. In the study carried out here, in addition to the improvement of the participants of Group 1 in 4 of the variables analyzed, the participants also showed improvements in their ability to cope better with routine situations, as pointed out in the participants' testimonials {5 and 6}.

Another interesting result of the QIH technique was related to the decrease in people's emotional suffering, considering that this can contribute not only to the development of depression, but also to other mental illnesses, since knowing how to cope emotionally with situations of everyday life is one of the essential requirements for maintaining physical and mental health. Thus, the study on emotional distress in Primary Health Care (PHC) patients showed the need to use therapies appropriate to the patient's perspective, and it is necessary to ensure the construction of practices based on comprehensive care and intensify therapies structured on soft technologies as another essential strategy in PHC in Brazil[34]. Thus, the participants' testimonials {7 and 8} regarding this variable showed that learning QIH can help in daily emotional control.

The significant decrease observed in the dizziness score of Group 1 of the present study demonstrates once again the potential of the QIH technique. This finding becomes relevant if it is considered that dizziness may be related to different types of disease. Literature data indicate that vertigo and other types of dizziness affect approximately 5% to 10% of the world population, increasing to 85% in people over 65 years of age[35]. It is a symptom that affects the quality of life (QoL) of the individual, especially in the case of older people, limiting certain head and body movements and impairing professional, domestic, social and/or leisure activities. This can lead to loss of autonomy, causing dependence, fear of falling, depression and anxiety.

In this context, it is believed that techniques and treatments capable of curing or even reducing the effects of dizziness are very desirable. Several techniques can be used in the treatment of dizziness, depending on its causes. One of them is Vestibular Rehabilitation (VR), when the cause of dizziness is vestibular dysfunction. VR has positive effects on improving static and dynamic balance, gait, feeling of self-confidence, QoL and reducing symptoms of dizziness, anxiety and depression[36]. In the literature review[37] on the effects of VR in middle-aged and older adults, the findings for vestibular dysfunction are presented as diversified, the most common being: complaints of body imbalance or postural instability and complaints of vertigo or dizziness. The testimonials {9 and 10} in the present study show positive changes in physical conditions directly linked to dizziness that could contribute to minimizing the damage to daily balance. For all these reasons, it is possible to infer that QIH has a good potential to act as an integrative technique, and can be used as a factor in the prevention of chronic diseases in general, both physical, mental and emotional, thus contributing to the reduction of costs with prolonged treatment and hospitalization.

Recent studies[15,38] have addressed the importance of integrating Integrative and Complementary Practices with traditional treatment practices. Investigations carried out with SUS patients with different diseases concluded that there is a great demand for these practices by users and that they are apparently able to perceive their benefits. There were positive impacts on users' health, in the psychological, physical and emotional fields, in addition to the benefits of using these therapies in patients with chronic diseases of endocrine origin[38].

In a review article on the use of these practices, it was observed that some of the main problems treated are mental disorders, social relationships, psychosomatic disorders, insomnia and chronic diseases. Thus, it is possible to list benefits such as: reduction of medicalization, empowerment and accountability of users, reduction in the frequency of common mental disorders, low cost, absence of side effects and health promotion[15]. Another study found that PICs collaborate to implement the expanded clinic and are potent therapeutic resources in health promotion, with numerous benefits to QoL, including those in the area of mental health, in the management of chronic pain and in the reduction of medication use, from the users' perspective[39].

Thus, the present study corroborates previous data[15,38,39], since the results showed positive impacts on the participants' physical health, reduction of medicalization (with medical follow-up) and benefits for mental health. In this context, the proposed QIH technique presents itself as another promising alternative candidate to integrate the list of techniques already available.

With the number of participants included in the sample as one of the limitations of the present study, a larger sample size would allow a better comparison between groups. Furthermore, in the current analysis, there was no separation of the participants' complaints for adherence to the study, which could change the interpretation of the data. Finally, another limitation is the non-inclusion of a placebo group, which would have received a different type of intervention for comparison with the group that received QIH care. For future studies, it is suggested to assess the effectiveness of QIH in specific conditions, such as groups of participants with depression.

Despite the limitations, the present study represents a contribution to the scientific knowledge about complementary therapies, more specifically, about this new technique to be used in health promotion and disease prevention. In other words, there seems to be a tendency for PICs to be increasingly valued in the treatment of patients with all types of illnesses, increasing the demand for new alternatives capable of meeting future needs.

CONCLUSION

Based on the results obtained, it was observed that Quantum Information Homeostasis provides benefits for the physical and emotional health of the analyzed adults, which was demonstrated by a significant improvement in the indicators of physical activity, anxiety, emotional distress and dizziness in the participants treated with this technique, thus suggesting its potential to improve the daily lives of the people evaluated.

ACKNOWLEDGMENTS

To Sara Sarto for the institutional support in carrying out the research and unconditional support during data collection carried out by the first author.

To Professor Dr Moacir Lacerda, Antônio Carlos Martim and Professor Dr Antônia dos Reis Figueira for their appreciation of the work after the death of the first author.

To Sandra Cristina Silva and Márcia Cristina S. Oliveira who helped during the pre- and post-test data collection.

CONFLICTS OF INTEREST

The technique studied in this research was developed by the first author, who later sought a researcher so that he could study it in a scientific way, contributing financially to the research being carried out. During data collection, the researcher's autonomy and independence was respected and there was no interference with the research process, thus avoiding research bias.

The second author received funding to coordinate this study, respecting this research and all the criteria necessary for the design of the chosen study. In addition, all ethical principles of research involving human beings were complied with.

CONTRIBUTIONS

Wanda Pereira Patrocinio and **Sérgio Roberto Ceccato Filho** ***(in memoriam)*** contributed to the study conception and design; acquisition, analysis and interpretation of data; writing of the manuscript. **Carlos Ceccato** contributed to the revision of the manuscript. The authors have approved the final version of the manuscript and are responsible for all aspects of it, including ensuring its accuracy and integrity.

FUNDING SOURCE

International Center for Quantum Information Homeostasis Therapy, Assessment and Research (*Centro Internacional de Terapia, Avaliação e Pesquisa em Homeostase Quântica Informacional – CTHQI*)

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How to cite: Ceccato Filho SR, Patrocinio WP, Ceccato C. Implications of the Quantum Information Homeostasis technique for physical and emotional health. Rev Bras Promoç Saúde. 2022;35:12009.