The Application of Integrative Psychotherapy during Covid-19 Pandemic

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Abstract: *Background:* Integrative Psychotherapy is a progressive form of psychotherapy that is developing in these last years as it has a more flexible and inclusive approach to treatment than more traditional, singular forms of psychotherapy. This study aimed to investigate the application of Integrative Psychotherapy, to understand if it may have provided the patients in therapy with the necessary resources to face the 2019 coronavirus epidemic (COVID-19).

Methods: The subjects were 63 control group and 44 patients. In the patients' group, 28 stopped the therapy and 16 continued during the lockdown. To analyze data, descriptive statistics and independent two-sample t-test were used.

Results: The results indicated that there wasn't a significant difference between the control group and all patients, while inside the patients' group there was a significant difference between patients that continued Integrative Psychotherapy sessions during the lockdown and patients that stopped therapy.

Conclusions: This study indicates that there are effects due to Integrative Psychotherapy sessions.

Keywords: Integrative psychotherapy, Emotion regulation, Mental health, Coronavirus, COVID-19 pandemic.

INTRODUCTION

The beginning of 2020 was characterized by the rapid spread (Bedford *et al*., 2020), in more than 212 countries and territories, of a severe acute respiratory syndrome of coronavirus 2 (SARS-CoV-2) which caused a 2019 coronavirus epidemic (COVID-19) and a serious global health crisis (Lipsitch *et al*., 2020). On 11 March 2020, the World Health Organization declared that the 2019 coronavirus epidemic (COVID-19) was a pandemic (Cucinotta & Vanelli, 2020).

The outbreak hit Europe and Italy was the first western country to be significantly affected by the virus. On January 31, 2020, the day immediately after WHO sanctioned the public health emergency of international interest, the Italian Government declared the state of health emergency for the new coronavirus epidemic by applying drastic containment measures initially in the north Italy where schools and universities have been closed since late February 2020.

With the increase in cases and infections, on 9 March 2020 (Government of Italy, 9 March 2020) and 11 March 2020 (Government of Italy, 11 March 2020) the Italian Government introduced progressive mitigation measures up to the lockdown to drastically limit social interactions and prevent the spread of the virus by prohibiting people from leaving home except for a proven food need, proven work needs and health reasons, changing suddenly and quickly their habits (Lazzerini & Putoto, 2020).

The lockdown with community quarantine led consequences on psychological well-being, many activities have stopped, especially those involving human relationships, forcing a changing of habits that many people were not prepared for. A study has reported much research on the psychological impact of quarantine in response to epidemics in different parts of the world, leading significant negative effects like anxiety, depression, insomnia, post-traumatic stress disorder (PTSD) and low mood, anger and irritability. Also according to one of these research, longer quarantine periods greater than 10 days were associated with worse mental health outcomes, including a higher risk of PTSD (Brooks *et al*., 2020). Another important consideration focused on the prolonged indoor stay is unavoidably the longer time spent watching television, online gaming or social networking, thus potentially worsening behavioral addiction disorders especially in youngest, often free to play at online gaming without safe parental supervision. Children with higher exposure to violent online video games, very popular inside their generation, tend to have less accurate death concepts and a lower probability of fear death (Hon *et al*., 2019).

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Some studies have suggested that similar pandemic like Severe Acute Respiratory Syndrome (SARS), which caused in 2004 a high death toll in a short period, had an immense psychological impact on people in the affected countries (Chan-Yeung & Xu, 2003). Post traumatic stress disorder symptomatology (PTSD) caused by extreme stress situations such as terrorist attacks or earthquakes greatly resembles to that due to the outbreak of contagious diseases such as SARS (Asukai *et al*., 2002). Older people are particularly vulnerable to trauma (Solomon & Prager, 1992) (Yehuda *et al*., 1995) as stress can trigger memories of past-traumatic experiences (Yehuda *et al*., 1995). Other research showed how quarantined individuals had notable distress symptoms and that their distress was positively correlated with the period of the quarantine (Hawryluck, 2004), and a more recent study shows that people experienced psychological distress up to about 35% (Qiu *et al*., 2020). In fact, there are strong concerns about the psychological impact of the COVID-19 pandemic (Holmes *et al*., 2020), with available research showing that the COVID-19 pandemic has profound psychological effects on general populations (Roy *et al*., 2020; Wang *et al*., 2020), in particular anxiety and depression symptoms and poor quality of sleep were highly involved (Huang & Zhao, 2020).

On the psychological side, the COVID-19 pandemic has aroused emotions, anxiety, anguish and sadness in people, but, above all, the narrowing of social activities has led to experiences of solitude intended as a reduction in the sharing of experience. The sense of loneliness can represent a risk factor for the pathology, understood as a stopover of the adaptive and integrative complexities of the person towards the challenges of life.

Within this possible psychological aspect of the pandemic, there is the value of psychotherapy understood as the growth of complexity and the "critical mass" useful for the reconstruction of the person's self systems capable of "curing and healing" the sense of solitude.

Loneliness, like all the other psychological repercussions mentioned above, can send the person into crisis. In this therapeutic perspective, the crisis is read as a process in which the security systems that are nested, that is, correspond to affective and motivational systems that are relational in nature.

The scientific study of the complex mind-brain-body system is necessarily transdisciplinary. Our therapeutic model refers to theoretical integration with two interconnected meanings: a) as a consilient paradigm (Wilson, 1998), that is a way of working that requires dialogue and comparison between the disciplines that deal with "life processes" (integration-differentiation, regulation-stabilization, self-repair and development-evolution); b) as an epistemological principle of integration, understood as an essential characteristic of complex adaptive systems, the very nature of their continuous processes of connection and differentiation (Biggero, 2011; Buiatti, 2011; Bullmore & Sporns, 2009).

Neuroscience contributes significantly to the integration of knowledge of the relational nature of life processes and the construction of "bridges" between research and clinical practice (Panksepp, 2009; Siegel, 2007; Porges, 2011).

These epistemological characteristics also form the basis of our Evolutionary - Affective - Intersubjective - Experiential (EAIE) integrative model (Menoni & Iannelli, 2010b). *Evolution*, *affect*, *intersubjectivity* and *experience* have been identified, as a whole, as four functional relational systems correlated with the processes of development, repair and change in psychotherapy (Barrett-Lennard 2007; Johanson, 2009). They are interconnected, with a degree of dependence, to form a global system of integrated processes that allow the progressive construction of complexity of adaptive systems. Therapeutic processes are activated on the condition that the principles to which our integrative model EAIE refers are operational (Menoni *et al*., 2011). Among these, the following are of particular importance: a) that the person-patient is an active protagonist of his own experience and change; b) that the person-therapist constructs the conditions suitable for the development and better adaptation of the patient system.

Evolution

It refers to the development of the processes and systems underlying the self, according to the principle that sharing one's affective experience allows one to integrate and enrich the representations of the self. Self-building processes are evolutionarily organized by prototypical emotional-motivational systems (Panksepp, 1998). In particular, in therapeutic practice we refer to the seeking system, the defense system (fear, disgust, anger) and the system aimed at the social connection (care-protection, pleasure, play, separation stress) (Menoni & Iannelli, 2011).

Evolution and complexity are considered to emerge from the interconnections of large-scale and small world networks (Bressler & Menon, 2010; Edelman, 2004; Sporns, 2011). The evolutionary studies of the Central Nervous System (CNS) and of the Autonomic Nervous System (ANS) show how they are functionally connected with high-low and low-high bidirectional large-scale networks that allow the integrated functioning of adaptive systems (Porges, 1995; Porges & Furman, 2011). In this regard, the "polyvagal theory" has been proposed, a construct of considerable heuristic value as regards the relationships between affective regulation, distress and adaptation processes (Porges, 2009).

Relatedness systems are interconnected to constitute a continuous balance between processes of supply, conservation and energy subtraction (Craig, 2005) what is referred to in terms of processes that "bring life" vs "take life away" (Panksepp, 2005). They are always active in the face of environmental challenges for the safety of life in hierarchical and predictable ways (Panksepp and Northoff, 2009). Relatedness is an essential part of the guideline system of life safety and is interconnected, moment by moment, with the bidirectional sequences related to perceptions, at a nonconscious level (neuroception), of safety-danger-danger of death (Porges, 2010).

Affect

The intervention model configures a methodology that focuses on awareness of emotional processes. In a therapeutic context with prevailing "emotional marking" (security, affective validation, warmth, respect, absence of judgment) the processes of affective regulation and construction of personal meanings can take place in a condition of relatedness and pro-activity.

The research document how these intersubjective processes are understandable in terms of changing patterns of self-functions known as Agency, Mineness, Ownership; for the self they represent flows of information mainly of an affective, motor and perceptual nature (Cermolacce *et al*., 2007; Legrand, 2007; Northoff & Panksepp, 2008). The interconnections between the functions of the self and the primary affective systems outline the range of optimization available and its evolutionary lines. Therefore, proactive change in psychotherapy is possible with characteristics of non-linear processes that measure the (re)connections of the systems of the self and affective consciousness with the plurality of affective systems (Edelman & Tononi, 2000).

It is affect, as a whole of information and energy flows, that is essentially integrative provided it is regulated, that is, that the system maintains a "critical mass" of stabilization-security-forecast in relations both with itself and with the other adaptive systems of the environment. Therapeutic processes are deeply interconnected with the reparative functions of proactive affective systems. In particular, those of attachment, protection-care, play and cooperation (Panksepp, 2010; Porges, 2010).

Intersubjectivity

The intersubjectivity is configured as a set of awareness processes that participate in the construction of the sense of personal identity and reciprocity: "entering into a relationship". The process of emotional modulation and enrichment of meanings, which corresponds to an increase in the complexity of the representation processes, seems to take place almost exclusively in relational contexts characterized by emotional activation in prevailing safety conditions and in any case around the limits of the "window of tolerance" but not beyond (Siegel, 1999).

The activation of emotional-motivational systems in borderline conditions is reflected in a progressive construction of intra-interpersonal skills such as "realizing", "accepting", "giving sense and meaning", "expressing oneself". These processes change moment-by-moment and represent potential evolutionary sequences that take place through the extension of the meanings and articulation of experiences, up to being precursors of differentiation and development in more complex and flexible forms of the self (Menoni & Iannelli, 2011).

The integrity of the self depends on intentionality as an active search for experiences concerning three affective and motivational systems at the "service of life" that continuously integrate experiences and actions: intersubjective communication, somatic well-being and active relationality with the environment physical (Trevarthen, 2009). The intersubjective processes essentially coincide with the right brain-right brain connectivity throughout the life span and specifically in the patient-therapist relationship (Schore, 2003a, 2003b).

The intersubjectivity in psychotherapy is interconnected with the three functional dimensions for

both the person-patient and the person-therapist (first-person, second-person, third-person) (Cermolacce *et al*., 2007; Gallesse, 1999; Legrand, 2007; Panksepp & Northoff, 2009; Vogeley, 2010). It is necessary that the therapist can and wants to give space mainly to the emotional systems of the other.

Therapy is possible only under conditions of a complexity gradient of the person-therapist according to the principle of the law of the necessary variety (Ashby, 1956). This corresponds to a capacity for differentiation and, at the same time, for the integration of one's affective-cognitive systems with those of the other on the basis of prevalence of security, coherence and proactive and pro-social intentionality processes.

Experience

The construct refers to the articulation of clinical work in sequences of perception, orientation, contact and exploration of emotions, with an initial focus on the "here and now" (sensations, movements, thoughts, etc.). From an experiential point of view, the therapeutic work actively prevents the intervention from taking place in conditions of emotional dysregulation, that is, outside the subjective "window of tolerance" (Siegel, 1999) since the latter is in close connection with the personal resilience skills (Menoni & Iannelli, 2011). Clinical research documents how, outside of this area of tolerance, potentially traumatic and dissociative states of alteration can be produced with the impoverishment of the meanings and breaking of the associative connections within "closed spirals", with psychopathological risks (Schore, 2003a, 2003b). Therapeutic experience is based on orientation-attention processes that allow to notice the "flow" of the various systems, their connections and their codes. In order for this experience to happen, a relational context characterized by validation and security is necessary.

Experience is perceptual-affective-somatic awareness guided by the orientation and attention functions with a focus on configurations already present in the same system of the patient-person. It takes place on the border between implicit and explicit processes and acquires a therapeutic value if connections with "comfort zones" are active (Panksepp, 2005). Its processes are interconnected with those of narration-relationality that happen in the therapeutic space, according to the rhythms, codes and meanings of the person's default mode network (DMN).

The general reference to the definition of therapy as complexity growth (Swanepoel, 2009) can be more specifically declined as an experiential development of connections and exchanges (*switching*) between at least four large interconnected functional systems, known to clinical research, which correspond to large-scale and *small world* networks, recently the subject of neuro-scientific studies. In particular, they are identified as: salience network (SN), attention-orienting system network (AN), executive-control network (ECN), default mode network (DMN) (Buckner *et al*., 2008; Fox *et al*., 2006; Kringelbach & Berridge, 2010; Raichle, *et al*., 2001; Raichle & Snyder, 2007; Seeley *et al*., 2007; Uddin & Menon, 2009; Zhang & Raichle, 2010).

The Therapeutic Project

Therapeutic processes occur at the level of states, spaces of affective security, of proaction and of validated and self-validating experience. They have functional counterparts in neuroplasticity processes at the level of experience-dependent tuning networks (Peled, 2005; 2011) which are the neurobiological basis of the processes of evolution, affect, intersubjectivity, experience. These functional systems are antithetical to those of escape, attack, blockade, dissociation. The emotional perception of security also coexists with the perception of danger as a possible but controlled hypothesis. The complexity of the mind-brain-body system corresponds to the coexistence of affective hypotheses, also opposed in relation to the "balance" between rigid alternatives with mutual exclusion and integrative possibilities.

The brain realizes its complexity with processes that take place between order and chaos in an area where integration and segregation trends can coexist (Tognoli & Kelso, 2014). This optimal area of activity-evolution has been classified as the "edge of chaos" (Langton, 1990). The principle of complementarity (Egstrom & Kelso, 2008; Kelso & Tognoli, 2007), that is, by the inseparable coexistence of configurations also antinomical (Hellyer, 2015; Vasa *et al*., 2015) is considered the basis of the "life processes".

Under these conditions, the phenomenon of the emergence of new functional properties is possible. It follows that the structure of a personal system is never given but is constantly in the balance between crisis and growing complexity. The results on research on free energy agree in indicating that open systems operate to keep "surprise" and uncertainty low. In the face of a continuously changing environment, complex adaptive systems, guided by the intentionality of survival, build predictions for the best possible

adaptations. The psyche-soma system goes into crisis when it does not have a critical mass of memories of confirmed expectations and actions for which it "desperately" tries to stabilize (Peled, 2008).

Situations of serious imbalance between the processes that "bring life" and the processes that "take life away" (Panksepp, 2005) are correlated with experiences of solitude, of having no way out, of *helplessness* and *hopelessness*. To balance these processes it is necessary to build resources (Carhart-Harris & Friston, 2010) in terms of higher level security and stabilization processes. That said, it is clinically important to keep in mind that: the processes of evolution-adaptation are a function of the degrees of freedom of the psyche soma system, therapeuticity is the promotion and recognition of the emergence of resource configurations capable of balancing the shortcomings and that the "psychopathology" corresponds to a dimensional *range* of low complexity configurations, however activated due to the connections of salient networks, of *default* and of *executive* in particular, according to a *nested* organization.

The therapeutic project is based, in the first instance, on the creation of a partnership relationship within a validating environment (Van der Hart *et al*., 2008) which provides a secure basis and the possibility of working together trying to promote mentalization skills in the here and now. This is through an experience-dependent work of attending therapist-patient to develop emotional personification.

The therapeutic process corresponds to the development of the functions of the Self (*agency, mineness and ownership*) and their integration (Damasio, 2010; Gallese, 1999): it promotes affective stabilization (Fosha, 2000), the awareness of emotional saliences and strategies parent. The increased interactive capacity for affective regulation will allow the subject to self-regulate hyperactivation states linked to the memory of traumatic events.

Therapy is related to personal safety boundaries: "window of tolerance" (Siegel, 2003), that is the margins within which emotional states of different intensity can be processed without this compromising the functioning of the system as a whole. Emotional processes can become conscious only when their degree of intensity is very close to the limits of tolerance, without the subject automatically resorting to dissociation.

Intra-personal tuning (Siegel, 2003), related to the integration of traumatic memories, takes the form of a relationship of the patient-system with itself, with connection between parts of the Self, even conflicting, within an optimized capacity for affective regulation (Panksepp, 2009; Porges, 2011).

The integration of traumatic memories promotes a prevalence of flexible, coherent and stable processes of evolutionary construction of complexity (Menoni, Iannelli & Egiziano, 2011). They constitute the nuclear functions of the Self which correspond to a ranger of greater choices for the increase of available resources and therefore of reflexivity in relation to affective states and greater narrative coherence (Schore, 2009). The increased capacity for intra-interpersonal relationships and affective regulation (Menoni, Iannelli & Egiziano, 2011), promote the development of affective systems of *care*, *play* and cooperation in their evolutionary potential (Panksepp & Biven, 2012).

In the current research we hypothesize that Psychotherapy, in specific Integrative Psychotherapy that works on the integrative Self processes, can be a protective factor for the onset of symptomatologies as anxiety, depression and insomnia. The research expectation is that data obtained support the hypothesis, that is Integrative Psychotherapy have helped the patients to face the 2019 coronavirus epidemic (COVID-19).

MATERIALS AND METHODS

Participants and Design

This study was conducted in the form of a quantitative study using a survey method to collect data. Participants were selected on a non-random basis, a control group and a group of patients who, from September 2019, participated in Integrative Psychotherapy sessions in a Psychology study in Arezzo that adopts this operating model.

All study participants were male and female and lived in Arezzo city and province, Tuscany.

Procedure

This study aims to investigate the effectiveness of Integrative Psychotherapy, to understand if it may have provided the patients in therapy with the necessary resources to face a period of a global pandemic. In the midst of the lockdown, the control group (n = 63) and patients (n = 44) were compared to see if there were differences or not.

We also deepened the study in patients, as some in the lockdown of March 2020 ended or interrupted the therapy (n = 28, PST, patients that stopped therapy), while others continued the therapy, in presence, in the private study (n = 16, PCT, patients that continued therapy), to see if there were differences due to therapy stopped. The PCT group continued the therapeutic path for 6 weeks, with 1 session of 1 hour per week, while the PST group had no experience with therapy. All 16 PCT completed 6 one-hour sessions of Integrative Psychotherapy, conducted by a trained and supervised Psychotherapist of Integrative Psychotherapy.

Data Collection

The research data was obtained from an online survey conducted from 15 to 25 April 2020 during the quarantine lockdown in Italy. The participants, both patient and non-patient (control group), answered their questionnaire form on the Internet. The inclusion criteria were the age of the participants over 18 and the completion of all the proposed survey modules. It took about 15 minutes on average to complete the questionnaire.

All subjects, 107 participants, reported their age, demographics and completed three standardized questionnaires that assessed their anxiety status (Trait Anxiety Inventory, Form X2), depressive symptoms (The Questionnaire for Depression, QD) and sleep quality (Insomnia Severity Index, ISI).

Measures

General Information Form

A general information form was used to collect data on age, gender and demographics.

State-Trait Anxiety Inventory-Form Y Trait Scale

The State-Trait Anxiety Inventory (Spielberger *et al*., 1983) is a two-part instrument designed to measure via self-report the presence and severity of current symptoms of anxiety and a generalized propensity to be anxious. Within this measure there are 2 subscales: the State Anxiety Scale (S-Anxiety) evaluates the current severity of anxiety the individual is experiencing asking how respondents feel “right now,” using items that measure subjective feelings of apprehension, tension, nervousness, worry, and activation/arousal of the autonomic nervous system, and the Trait Anxiety Scale (T-Anxiety) evaluates relatively stable aspects of “anxiety proneness,” including general states of calmness, confidence, and security. The STAI has 40 items, 20 items allocated to each of the S-Anxiety and T-Anxiety subscales. Range of scores for each subtest is from 20 to 80, with higher scores indicating greater anxiety. In this research, we used T-Anxiety subscale and the responses, based on a 4-point Likert scale, assess the frequency of feelings "in general": 1) almost never, 2) sometimes, 3) often, and 4) almost always. The purpose of this instrument is to measure via self-report the presence and severity of current symptoms of anxiety and a generalized propensity to be anxious.

The Depression Questionnaire

The Depression Questionnaire (QD) is an instrument designed to explore and quantify via self-report the presence of depressive symptoms (Bertolotti *et al*., 2000). The QD has 24 items, each item provides a statement and each response option is dichotomous (Yes or No) and the total score is within a 0–24 range. Higher scores indicate worse mood and a person responds referring to his/her current state. Responses for the QD instrument, includes a series of statements like: loss of interest in sex, other pleasant things, own appearance, depressed mood, crying, difficulty concentrating, ideational and motor slowness, pessimistic ideas, sense of boredom, tiredness and tension, appetite loss, somatic complaints, sleep disturbances, thoughts of the uselessness of life and suicide.

The Insomnia Severity Index

The Insomnia Severity Index (ISI) is a brief self-report questionnaire reliable and valid to quantify perceived insomnia severity (Bastien *et al*., 2001) and it has been widely used for research and clinical purposes since its introduction in 1993 (Morin, 1993). The ISI is indicated as a reliable assessment instrument for both adolescent (Chung *et al*., 2011) and older adults (Sierra *et al*., 2008), as well as for people with psychiatric diseases (Morin *et al*., 2011) and other clinical diseases (Omachi, 2011; Tang *et al*., 2007). Furthermore, it has been translated into various languages including Spanish, Arabic, Chinese and Hindi. The ISI has 7 items, based on a 5-point Likert scale, with a range of scores from 0 to 28 obtained from summing the seven ratings; the suggested guidelines for score interpretation are from 0 to 7 for no clinically significant insomnia, from 8 to 14 for subthreshold insomnia, from 15 to 21 for clinical insomnia, moderate severity, and from 22 to 28 for clinical insomnia, severe.

Statistical Analysis

The data are presented as mean±SD values, and *P*-values of less than 0.05 were considered statistically significant (2-sided tests). Descriptive statistics were used for examining the age, demographic data, test reliability was examined with an independent two-sample t-test, and internal consistency was examined with Cronbach's alpha coefficient. All statistical analyses were performed using EXCEL 2007 (Microsoft Inc.) (Verma, 2019).

RESULTS

Difference between the Control Group and All Patients

Descriptive statistics of and comparison between the control group and all patients on tests are presented in Table **1**. All the variables did not differ between control group and patients, (X2, t (105) = -1.59, P > 0.05; QD, t (105) = 0.43, P > 0.05; ISI, t (105) = 0.48, P > 0.05). The Control group had depression correlated positively with anxiety (0.65) especially females (0.68), while males had depression correlated with insomnia (0.63). The control group that lives in Arezzo city had anxiety correlated with depression (0.65) and insomnia (0.67), and depression correlated with insomnia (0.63). Males that live in the province of Arezzo had age highly correlated with depression (0.84) while females had surprisingly a moderately negative correlation (-0.41), and also the correlation between age and insomnia in females that live in the province is negative (-0.48). In patients, females had depression highly correlated with anxiety (0.81), and the same is in patients that live in the province (0.84); females that live in the city had a moderately negative correlation between age and depression (-0.44) and depression correlated with anxiety (0.72). Both age groups from 40 to 65 years old, in the control group and patients, had anxiety correlated with depression (respectively 0.76 and 0.79).

In a deepened analysis between the control group and all patients, we found also no significant differences in anxiety both females (P=0.806) and males (P=0.176), as in depression (females, P=0.236; males P=0.686) and in insomnia (females, P=0.382; males P=0.495). There weren't significant differences also in the groups that live in the city (X2, P=0.231; QD, P=0.627; ISI, P=0.793) as in those that live in the province (X2, P=0.288; QD, P=0.919; ISI, P=0.320). We found same results also dividing the groups for

Table 1: Descriptive Statistics of and Comparison between the Control Group and All Patients

	Control Group (*n* = 63)	All Patients (*n* = 44)	t	*P*-value
Gender				
Males	38 (60.3%)	16 (36.4%)		
Females	25 (39.7%)	28 (63.6%)		
Age	36.67±11.38	39.61±13.21		
X2				
Total	63 (100%)	44 (100%)	*t*(105) = -1.59	0.114
Males	38 (60.3%)	16 (36.4%)	*t*(52) = -1.37	0.176
Females	25 (39.7%)	28 (63.6%)	*t*(51) = -0.25	0.806
QD				
Total	63 (100%)	44 (100%)	*t*(105) = 0.43	0.669
Males	38 (60.3%)	16 (36.4%)	*t*(52) = 0.41	0.686
Females	25 (39.7%)	28 (63.6%)	*t*(51) = 1.19	0.236
ISI				
Total	63 (100%)	44 (100%)	*t*(105) = 0.48	0.633
Males	38 (60.3%)	16 (36.4%)	*t*(52) = 0.69	0.495
Females	25 (39.7%)	28 (63.6%)	*t*(51) = 0.88	0.382

Note. Number of cases and percentages within the subsample (in brackets) were reported for categorical variables (*i.e.*, gender, X2, QD, ISI), mean and standard deviation for the age.

age, 18-39 (X2, P=0.120; QD, P=0.526; ISI, P=0.910) and 40-65 (X2, P=0.514; QD, P=0.124; ISI, P=0.523).

Difference between Patients with Integrative Psychotherapy Sessions and Patients without

Student's t-test for independent samples (n<30) was used in order to highlight significant differences in the scores between patients with Integrative Psychotherapy sessions (PCT) and patients without (PST). There's significant difference between the PCT and PST as presented in Table **2** (X2, t (42) = 2.27, P < 0.05; QD, t (42) = 2.32, P < 0.05; ISI, t (42) = 2.35, P < 0.05). PST had depression correlated with anxiety (0.74) especially females (0.78), while age in males had a moderately negative correlation with anxiety (-0.52) and depression (-0.61), especially in males that live in the city (-0.92). Females that live in the province of Arezzo had depression highly correlated with anxiety (0.85). Females of PCT had anxiety highly correlated with depression (0.88) and ISI (0.75). PCT that lives in the province of the city had a very high correlation between anxiety and depression (0.99), also between anxiety and insomnia (0.83). Both PCT that live in the city and the province had anxiety correlated with insomnia, with the same values (0.83). The age group from 40 to 65 years old in PCT had a negative correlation between age and insomnia (-0.61) and anxiety highly correlated with depression (0.92), while the age group from 18 to 39 years old had anxiety correlated with insomnia (0.82).

In a deepened analysis inside the patients' group, females had significant differences in all 3 tests (X2, P=0.079; QD, P=0.068; ISI, P=0.041), while males no (X2, P=0.227; QD, P=0.202; ISI, P=0.321). Considering the two genders, for those that live in the city, therapy has support PCT in having lower values in anxiety (P=0.048) and depression (P=0.002) but no in insomnia (P=0.152), while for those who live in the province is exactly the opposite (X2, P=0.249; QD, P=0.760; ISI, P=0.046). Deepening, PCT females had significant differences in anxiety (P=0.078), depression (P=0.010) and insomnia (P=0.082) performing lower scores, but for those that live in the province there weren't significant differences (X2, P=0.376; QD, P=0.696; ISI, P=0.241). Males patients PCT and PST had no significant differences between those who live in the city and in the province. The findings of this in-depth analysis suggest that females had more benefits due to therapy in confront of males, probably due to multiple factors that need to be investigated yet. Peculiar is also a significant difference founded dividing the groups for years: in the age range 18-39 PCT performed lower scores in anxiety (P=0.002), depression (P=0.001) and insomnia (P=0.065), while in

Table 2: Descriptive Statistics of and Comparison between Patients with Integrative Psychotherapy Sessions (PCT) and Patients without (PST)

	PST (*n* = 28)	PCT (*n* = 16)	t	*P*-value
Gender				
Males	10 (35.7%)	6 (37.5%)		
Females	18 (64.3%)	10 (62.5%)		
Age	39.61±13.21	36.56±9.34		
X2				
Total	28 (100%)	16 (100%)	*t*(42) = 2.27	0.028
Males	10 (35.7%)	6 (37.5%)	*t*(14) = 1.26	0.227
Females	18 (64.3%)	10 (62.5%)	*t*(26) = 1.83	0.079
QD				
Total	28 (100%)	16 (100%)	*t*(42) = 2.32	0.025
Males	10 (35.7%)	6 (37.5%)	*t*(14) = 1.38	0.202
Females	18 (64.3%)	10 (62.5%)	*t*(26) = 1.90	0.068
ISI				
Total	28 (100%)	16 (100%)	*t*(42) = 2.35	0.024
Males	10 (35.7%)	6 (37.5%)	*t*(14) = 1.03	0.321
Females	18 (64.3%)	10 (62.5%)	*t*(26) = 2.15	0.041

Note. Number of cases and percentages within the subsample (in brackets) were reported for categorical variables (*i.e.*, gender, X2, QD, ISI), mean and standard deviation for the age.

age range 40-65 there weren't differences (X2, P=0.912; QD, P=0.656; ISI, P=0.212).

DISCUSSION

Many nations imposed severe social restrictions on their citizens due to the COVID-19 pandemic; this measure controls the spread of the virus, but at the same time it could also have psychological consequences on people's mental health.

COVID-19 pandemic affected both physical health and mental health, individual and collective behavior, way of life changing (Fiorillo & Gorwood, 2020), increasing the fear of uncertainty, death, isolation, loss of job and separation from beloved persons, and consequently need of psychological help is going to continually increase (Marčinko *et al*., 2020). This present is a period of unprecedented confinement for the Italians, so it is key to evaluate and analyze the effects produced by the COVID-19 crisis on individuals' mental health, which is in a precarious balance.

The outbreak of COVID-19 and the restrictions undertaken to contain it, may lead and cause repercussions for individuals' psychological well-being both in short that in long term, in particular more longer is the isolation worse is the mental health (Pancani *et al*., 2020).

The purpose of this study was to investigate the effect of Integrative Psychotherapy on the patients during the period 2019 coronavirus epidemic (COVID-19). The results show that in all patients the internal resources were similar to the control group, in particular anxiety (P=0.114), depression (P=0.669) and insomnia (P=0.633), as shown in Figure **1**.

In addition, we enhanced the study inside the patients, and we found significant differences between the group that ended or stopped the therapy (PST) and the group that continued (PCT), in particular anxiety (P=0.028), depression (P=0.025) and insomnia (P=0.024), as shown in Figure **2**.

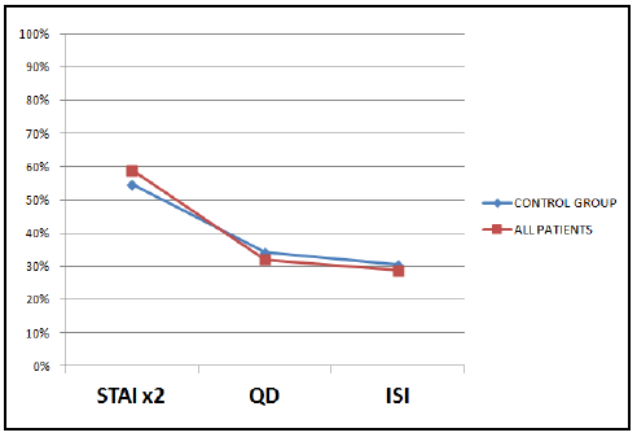

Figure 1: Percentage test scores between the control group and all patients in the midst of lockdown.

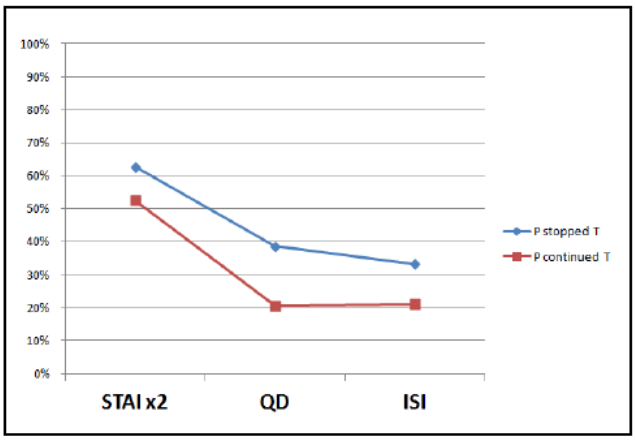

Figure 2: Percentage test scores between PST (patients that stopped the therapy) and PCT (patients that continued the therapy during the lockdown).

These results show that there aren't significant differences between the control group and all patients, suggesting that therapy has provided in patients the necessary resources to face the 2019 coronavirus epidemic (COVID-19). In particular, PCT has significant differences compared to PST, this further supports the hypothesis that Integrative Psychotherapy has contributed to the maintenance and improvement of psychological well-being in patients. In other words, Integrative Psychotherapy seems to have influenced positively the scores of tests in patients.

Limitations

The research results should be considered in light of the limitations of this study. The main is the patients are treated only with Integrative Psychotherapy approach, so we cannot know the benefits of other therapies applied to many other patients during the pandemic.

Besides, follow-up measurements are needed in future studies, as the differences between PCT group treated with Integrative Psychotherapy and PST group might be better visible at follow-up.

Furthermore, despite the fact that the tests used are currently considered an established measure to reveal symptoms of anxiety, depression and insomnia, classifying the control group based on a self-report measure instead of a clinician-rated instrument, such as a clinical interview, could question the reliability of data of the control group.

Finally, the sample is in a limited geographical area. It could be interesting to enlarge the study to the Italian population to reach more large conclusions on the application of the therapy.

CONCLUSIONS

Integrative Psychotherapy seems to provide resources in order to reduce anxiety, depression and insomnia symptoms in patients, thus it could be used as an effective approach to face crisis situations.

Based on the possible applications of present research and the proven impact of therapy, psychologists and psychotherapists can benefit from the results of such research for approaching better to old and new patients.

ETHICAL CONSIDERATIONS

Compliance with Ethical Guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the research; they were also assured about the confidentiality of their information and advised that, if desired, the results of the research would be available to them.

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Authors' Contributions

Paolo Tirinnanzi participated in designing the study, in the literature review, in the acquisition, interpreting and analyzing the data, and in writing the manuscript. Alice Bianchi participated in designing the study, in clinical evaluation, in performing the sessions, in literature review, and in writing the manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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