

# Comparative Study between the Effects of Disinfectant and Taheri Consciousness Fields on SARS-CoV-2

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## Abstract

The highly contagious and life-threatening coronavirus SARS-CoV-2, which has caused a global outbreak since December 2019 (COVID-19), is a beta coronavirus that has spread rapidly and become a worldwide pandemic. To control the public spread of the virus, different types of disinfectants are used. Taheri Consciousness Fields (TCFs) introduced by Mohammad Ali Taheri are novel fields that are neither matter nor energy. Therefore, they are non-quantifiable and cannot be directly observed or measured. However, it is possible to demonstrate and measure the effects of these fields through standard scientific experiments. The present work aimed to compare the effect of the TCFs with a disinfectant agent (sodium hypochlorite) on the SARS-CoV-2 virus. To assess the effect of TCFs, disinfectants, and their combination, cytopathic effect (CPE) monitoring, 50% Tissue Culture Infectious Dose (TCID<sub>50</sub>), and real-time RT-PCR (Ct value) methods were applied. The results showed a reduction or elimination of the live viruses in the groups treated with sodium hypochlorite and TCFs simultaneously. Although the TCFs decreased the infectivity of the virus, the infectivity potential of the virus remained. It seems that the use of the TCFs along with disinfectants can strengthen and enhance the effect of antiseptic compounds. Based on the findings, further investigations are recommended in order to better understand the effects of the TCFs on viruses.

**Keywords:** Taheri Consciousness Fields, T-Consciousness, COVID-19, SARS-CoV-2, Disinfectant

## Introduction

Recently, the critical global public health problem known as the Coronavirus disease 2019 (COVID-19) has emerged, which is caused by the SARS-CoV-2 virus. Disinfection is regarded as a common way to prevent SARS-CoV-2 infection at homes and communities. The survival of human coronaviruses on inanimate surfaces such as glass, metal, or plastic is found to be up to 9 days, but it can be deactivated by surface disinfectants such as ethanol (62-71%), hydrogen peroxide (0.5%), or sodium hypochlorite (0.1%) within 1 minute (Kampf et al., 2020). Although surface disinfection is recommended to reduce the risk of infection, there have been rising reports of its adverse effects on respiratory diseases such as asthma (Clausen et al., 2020). In addition, the active components of the majority of disinfectants are harmful. Therefore, finding a way to reduce the use of disinfectants will be very helpful (Goh et al., 2020; Pradhan et al., 2020).

According to Taheri's theory, T-Consciousness is the basic component of the universe, and matter, energy, and information arise from it. Also, Taheri Consciousness Fields (TCFs) that are non-frequency in nature and are a subset of the Cosmic Consciousness Network (CCN) have been introduced. Since these fields are neither matter nor energy, they cannot be measured with physical instruments, but they can be studied indirectly. The effect of TCFs begins with a brief and immediate attention to the subject under study. This operational feature has led researchers to design experiments to study the effect of these fields on various subjects (Taheri, 2013).

In previous research, the effects of the TCFs on the MCF7 cancer cell line (Taheri et al., 2020a), spatial memory and avoidance behavior of a rat model of Alzheimer's disease (Taheri et al., 2021a), wheat plant (Torabi et al., 2020), bacterial population growth (Taheri et al., 2021b), and the electrical activity of the brain during Faradarmani Connection in the Faradarmangars population (Taheri et al.,

2020b) have been investigated. This study evaluates the simultaneous effect of the TCFs on the survival of SARS-CoV-2 exposed to different concentrations of disinfectant.

## Material and Methods

### Application of Taheri Consciousness Fields

TCFs were applied to the subjects according to the protocols regulated by the COSMOintel research center ([www.COSMOintel.com](http://www.COSMOintel.com)). More details are provided in the Common Considerations section of this issue. In the current study, the effects of TCF-1 and TCF-2 on the survival of SARS-CoV-2 were screened. The TCFs were applied after inoculation of the virus to media with different concentrations of sodium hypochlorite.

### Disinfectant

The World Health Organization (WHO) recommended a 0.1% solution of sodium hypochlorite (1000 mg/L) for ambient cleaning and management of waste in clinical laboratories for the detection of SARS-CoV-2 (WHO 2020b).

Hypochlorite-based liquid product (sodium hypochlorite) was selected for the present study as the disinfectant material, and was obtained from local commercial sources for incubation with SARS-CoV-2 in a designed comparative study with TCFs.

### Culture of Vero cell and SARS-CoV-2

The Vero cell line was cultured in DMEM (Gibco) with 10% fetal bovine serum (Gibco). Previously, nasopharyngeal cavity swabs have been used to isolate virus from SARS-CoV-2-positive patients with real-time PCR analysis (Cycle threshold (Ct) values of 10) in Viral Transportation Medium (VTM). A biosafety level 3 (BSL-3) laboratory was used for all surveys on the virus (WHO, 2020b). The proliferation of SARS-CoV-2, as well as TCID50 (virus titration) and Real-time RT-PCR assays, was performed before the initiation of the study.

Then, the comparative virucidal activity of the disinfectant and TCFs was evaluated separately and together. For the TCID<sub>50</sub> examination, cells and viruses were seeded into a 96-well plate, and the results were evaluated using the Reed-Muench method (Reed et al., 1938). Finally, virus culture with Ct value 11 and log TCID<sub>50</sub>/ml ~6 was selected for inoculation into the disinfectant group, TCFs group, and a group of them combined.

#### **Virus incubation with disinfectant, Taheri Consciousness Fields, and both**

The solution containing nine mL, including phosphate-buffered saline (PBS) + % disinfectant in final concentration, was incubated with one mL virus (TCID<sub>50</sub> 10<sup>6</sup>) for one hour at room temperature (21 °C) in different dilutions in the following groups:

Group 1: Different concentrations of sodium hypochlorite in four subgroups with three replications (A: 0.5%, B: 0.1% C: 0.01%, D: 0.001%).

Group 2: Treated with TCFs and different concentrations of sodium hypochlorite in five subgroups with three repetitions (A: Affected by the TCFs alone, B: Under the influence of TCFs + 0.5%, C: Under the influence of TCFs + 0.1%, D: Under the influence of TCFs + 0.01%, E: Under the influence of TCFs + 0.001%)

#### **Virus precipitation**

Polyethylene glycol (PEG) precipitation was used to concentrate the virus and remove cytotoxic agents of cell culture and/or PCR inhibitors from treated samples. They were mixed with 1.5 ml of the PEG 6000 stock solutions. The suspensions were agitated on a shaking incubator at 150 rpm for 8 h at 4 °C, and the supernatant was transferred into the centrifuge tube. Then, they were centrifuged at 3600 g for 50 min. The PEG-containing supernatants were removed, and the resulting pellet was dissolved in 1 mL PBS and re-centrifuged at 4000 g for 40 min. The resulting supernatant was filtered

through a 0.2 µm sterile membrane filter, and 50 µL was added to the 96-well plate wells for virus titration (in triplicate) by TCID<sub>50</sub> assay and then incubated at 37 °C with 5% CO<sub>2</sub>. All the 96-well plates were monitored every 24 h for cytopathic effect (CPE), and after six days, the results were reported. Simultaneously, these processes were followed in flasks, and each sample was cultured in some cell culture flasks.

#### **Real-time RT-PCR**

The supernatant from samples cultured in flasks for the subgroups was subjected to a real-time test after 6 days. All real-time RT-PCR reactions were performed on the Rotor-Gene-Q 6000 thermocycler (Corbett, Australia) using the recommended protocol. The following ingredients were used: 10 µL of extracted RNA or blank, 0.1 µL of RT enzyme, 4 µL of Roche MasterMix, 0.5 µL of primer-probe mix, and deionized, RNase- and DNase-free water. The heating program was 3 secs at 55 °C, 30 secs at 95 °C (1 cycle); 3 secs at 95 °C, 12 secs at 60 °C (45 cycles); and 10 secs at 40 °C (1 cycle).

#### **Statistical analysis**

The experiments, as well as measurements, were done in triplicate. Data were analyzed using SPSS software version 26.

#### **Results**

As display in Table 1, the results showed that the SARS-CoV-2 viruses were completely killed in concentrations of 0.5% and 0.1% sodium hypochlorite, and the simultaneous application of the TCFs caused the loss of infectivity of the virus and its death at a concentration of 0.01%.

On the other hand, although the TCFs (in the group in which the TCFs are used alone) have been able to reduce the infectivity of the virus.

Table 1. Effect of disinfectant, Taheri Consciousness Fields (TCFs), and the combination of them on the survival of the SARS-CoV-2 virus

Group	Sub-group	Ct (threshold cycle) in Real-time PCR	TCID <sub>50</sub>	Visible CPE
Sodium hypochlorite	0.5%	-	-	-
	0.1 %	-	-	-
	0.01 %	37± 1	-	-
	0.001 %	31±2	10 <sup>2.6</sup>	-/+
T-Consciousness Fields	TCFs	18 ± 1	10 <sup>4.4</sup>	+
	TCFs + 0.5%	-	-	-
	TCFs + 0.1 %	-	-	-
	TCFs + 0.01 %	-	-	-
	TCFs + 0.001 %	35±1	10 <sup>2</sup>	-
Controls +	None	8	10 <sup>7</sup>	+
Controls -	None	-	-	-

## Discussion

When a COVID-19 infected person speaks, sneezes, or coughs, the virus spreads through respiratory droplets. Also, by contacting a contaminated surface and then touching the nose, mouth, or eyes, people can become infected (WHO, 2020a). All these factors highlight the importance of keeping the environment sanitized and clean from any pathogens. According to a descriptive-analytical study with 1090 participants, 41.4 % had health problems in at least one organ of their body due to the use of disinfectants (Dindarloo et al., 2020). The results of our study demonstrated that TCFs without disinfectant could reduce the infectious burden of the virus.

The current investigation confirms that TCFs can affect the survival of the SARS-CoV-2

virus. Therefore, the use of the TCFs along with disinfectants can strengthen and enhance the effect of antiseptic compounds. The TCFs alone can reduce the infectious burden of the virus. We suggest conducting research on the effects of TCFs on viruses under different environmental conditions.

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## Conflicts of Interest

The authors declare no conflict of interest.

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