Study of Environmental Survival and Infectivity of SARS-CoV-2 Virus under the Influence of Taheri Consciousness Fields in Various Foods

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DOI: https://doi.org/10.61450/joci.v1i1.11

Abstract

The coronavirus disease 2019 (COVID-19), a severe global public health problem, is caused by the SARS-CoV-2 virus. Numerous therapeutic agents have been suggested for the treatment of COVID-19. T-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 aim of this study was to investigate the effects of TCFs (1, 2, and 3) on the infectivity of SARS-CoV-2 in several types of foods, including bread, dairy, meat, and fruit. The cytopathic effect (CPE) monitoring, TCID50 (50% Tissue Culture Infectious Dose), and real-time RT-PCR were used to evaluate virus survival and infectivity in the TCFs treatment and control groups in different types of food. The results showed that TCFs decreased the survival and infectivity of SARS-CoV-2 across different types of food. These results provide evidence of the effectiveness of TCFs. It seems that TCFs, as a qualitative intervention, have the potential for *in vivo* research and clinical management of SARS-CoV-2 infection.

Keywords: Faradarmani, Taheri Consciousness Fields, T-Consciousness, SARS-CoV-2, COVID-19, Food

Introduction

Human coronaviruses were first described in the 1960s for patients with the common cold (Su et al., 2016). They are a family of single-stranded RNA enveloped viruses that infect many animal species and humans (Weiss et al., 2005). Among all known RNA viruses, coronaviruses have the largest genomes (26.4 to 31.7 kb) (Woo et al., 2010). SARS-CoV-2 causes COVID-19 disease, which is a new disease that can lead to severe acute respiratory syndrome. Transmission of SARS-CoV-2 is possible through droplets from coughing and sneezing, direct hand contact with the patient, and fecal-oral, fecal, urinary, and saliva transmission (Jones et al., 2020). The infection fatality rate (IFR) of the disease across a population is reported as 0.68% (0.53%-0.82%), based on a published systematic review and meta-analysis on COVID-19 until July 2020 (Meyerowitz-Katz et al., 2020).

The survival rate of coronavirus out of the human body and in the environment is one of the most critical and seriously discussed issues in the world and in the global health community, where ecosystem-related factors such as temperature, pH, material, food, disinfectants, etc., play a crucial role (Eslami et al., 2020). Although there is no evidence that people can catch COVID-19 from food (WHO, 2020), there is a hypothesis that contaminated food may have the potential to be transported to regions with no COVID-19 (Han et al., 2021; Olaimat et al., 2020).

This study investigated the effects of Taheri Consciousness Fields (TCFs) on various foods. TCFs are non-frequency in nature and cannot be measured directly, but it is possible to record their effects in the laboratory and understand their function at the biological level. It should be noted that the effect of TCFs begins through the announcer (Faradarmangar) and with a short and immediate attention (Taheri, 2013). This feature has led researchers to design various experiments to conduct research in this area.

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. In this study, the effects of TCF-1, TCF-2, and TCF-3 are evaluated separately to investigate the infectivity of SARS-CoV-2 in different types of foods, including bread, dairy, meat, and fruit.

Material and Methods

Application of the TCFs

TCFs were applied to the samples according to the protocols regulated by the COSMOintel research center (www.COSMOintel.com). More details are provided in the Common Considerations section of this issue.

Virus isolation, culturing, and food preparation

In this study, specimens were isolated from COVID-19 positive diagnosed patients according to their Real-Time PCR analysis (Cycle threshold (Ct) values = 10) from swabs of the nasopharyngeal cavity in Viral Transportation Medium (VTM). SARS-CoV-2 viruses were cultured in a Vero cell line in DMEM media (Gibco) with 10% fetal bovine serum (Gibco) and incubated at 37 ˚C and 5% CO_2 until 80% confluency. One mL of VERO cell suspension containing viral titer of TCID50 = 1×10^6 and RNA copy number = 4×10^6 was used. A biosafety level 3 (BSL-3) laboratory was used for all studies on the virus (WHO, 2020). For each sample, three replicates were considered. Food groups were divided into four groups.

Group A (Bread): Three different types of Iranian breads, including Sangak, Lavash, and Barbari, were used in this study due to their different texture and thicknesses. The primary reason for picking these three bread varieties is that they are all popular and easy to find in Iran. Their components are almost identical and do not affect the virus's ability to survive. After pouring 1 mL of the virus suspension droplets onto the bread under the Class 3 hood, it took 20 minutes for the droplets to penetrate the bread and dry.

Group B (Dairy products): 1 mL virus suspension was added to dairy products, including milk (high fat), yogurt, yogurt drink (it is sourer than yogurt and its pH is more acidic), buttermilk, and ice cream.

Group C (Meats): 1 mL of virus suspension was added to meat products, including beef, fish, sausages, and hamburgers.

Group D (fruits): 1 mL of virus suspension was added to the flesh texture of fruits, including apples and tangerines.

Each group contained three samples affected by each of the T-Consciousness Fields (1, 2, and 3), and one control group. All groups were incubated for 2 hours at room temperature. The food samples were then crushed in a mortar with PBS, and the contents were centrifuged at 4000 rpm. In the next step, the virus was concentrated and recovered using PEG 6000 at a final concentration of 10% according to the following protocol.

Virus concentration protocol using PEG 6000

Polyethylene glycol 6000 precipitation is an effective concentration method that increases the detection chances of human virus pathogens in environmental samples. First, the virus elution was moved to a sterile beaker. In the next step, NaCl was added slowly to a final concentration of 2.3% under constant and gentle magnetic stirring.

Then, PEG-6000 was added slowly to a final concentration of 7%. The stirring continued for 1 hour, and the eluate was kept at 4°C overnight. Then the eluate was centrifuged at 16,000×g for 15 minutes, and the supernatant was removed. The pellet was suspended in 15 mL of Tris-EDTA-sodium chloride buffer. After vertexing for 1 minute, PEG was removed from suspensions by centrifugation at 13,000×g for 5 minutes, and the supernatant was utilized for viral analysis (Hierholzer et al., 1996). Finally, the liquid obtained from the sample was filtered with a 0.22 µm sterile membrane.

Assessment of virus titer and RNA copy number

168 samples (3 replications per sample) were added to the 96-well plate and incubated. During this time, CPE and cellular changes were checked every 24 h. After 6 days, TCID50 was also evaluated (Reed et al., 1938). Also, 400 µL of the contents of each well were sent for RNA extraction. Total RNA was extracted via an Allprep DNA/RNA/miRNA universal kit (Qiagen) with on-column DNase treatment (RNase-Free DNase Set; Qiagen). A cDNA synthesis kit was used to synthesize cDNA. For Quantitative real-time PCR, the Biotech rabbit GmbH kit was used according to standard protocol.

Statistical analysis

Data were analyzed using statistical software (SPSS version 26) at a 95% confidence level to assess significance between treatments. Two-way ANOVA analysis was used to detect significant differences between samples.

Results

As shown in Tables 1 and 2, all three TCFs reduced the titer, survival, and copy number of the RNA of viruses ($p<0.05$). In group A (Breads), the most influential TCFs in removing the virus were TCF-2 and TCF-3, and among the three bread types, TCFs had the greatest effect on Lavash. In the dairy products group, the most significant effect was seen in yogurt drinks, and all three TCFs eliminated the virus compared to the control group. In the meat group, the most significant reduction in virus infectivity was seen in sausage and hamburger.

All TCFs can significantly reduce the survival of the virus in sausage and hamburger products.

In sausage, the virus was inactivated entirely under all three TCF types (1, 2, and 3). The same effect can be seen in hamburgers under TCF-2. The TCFs had a low impact on fish and beef, suggesting the need for further studies. In the fruit group, the TCFs (2 and 3) in sour tangerine eliminated the virus. In apple, TCF-2 completely inactivated the virus.

Table 1. SARS-CoV-2 titer in the studied groups

Food group	**Food name**	**SARS-CoV-2 titer**				
		Initial	**Control group**	**TCF-1**	**TCF-2**	**TCF-3**
Bread (Group A)	Sangak bread	1×10^{6}	1×10^{4}	$1 \times 10^{3.5*}$	$1 \times 10^{2.7*}$	$1 \times 10^{3.2*}$
	Lavash bread	1×10^{6}	1×10^{4}	$1 \times 10^{4*}$	ND*	ND*
	Barbari	1×10^{6}	1×10^{4}	$1 \times 10^{3.2*}$	ND*	$1 \times 10^{2.5*}$
Dairy (Group B)	Milk (high fat)	1×10^{6}	$1 \times 10^{4.8}$	$1 \times 10^{3.5*}$	$1 \times 10^{3.2*}$	$1 \times 10^{3.5*}$
	Yogurt drink	1×10^{6}	1×10^{2}	ND*	ND*	ND*
	Buttermilk	1×10^{6}	$1 \times 10^{4.2}$	$1 \times 10^{4*}$	$1 \times 10^{3.5*}$	$1 \times 10^{3.5*}$
	Yogurt	1×10^{6}	1×10^{3}	$1 \times 10^{3*}$	ND*	$1 \times 10^{2.5*}$
	Ice cream	1×10^{6}	$1 \times 10^{5.8}$	$1 \times 10^{5*}$	$1 \times 10^{5*}$	$1 \times 10^{5*}$
Meat (Group C)	Beef	1×10^{6}	$1 \times 10^{4.8}$	$1 \times 10^{4.5*}$	$1 \times 10^{4.5*}$	$1 \times 10^{4.2*}$
	Fish	1×10^{6}	1×10^{5}	$1 \times 10^{4.5*}$	$1 \times 10^{4.5*}$	$1 \times 10^{4.2*}$
	Sausages	1×10^{6}	$1 \times 10^{2.75}$	ND*	ND*	ND*
	Hamburgers	1×10^{6}	1×10^{3}	1×10^{3}	ND*	$1 \times 10^{2.7*}$
Fruits (Group D)	Apples	1×10^{6}	1×10^{3}	$1 \times 10^{2.5*}$	ND*	$1 \times 10^{2*}$
	Tangerines	1×10^{6}	$1 \times 10^{2.75}$	$1 \times 10^{2.7}$	ND*	ND*

ND: Not detected, TCF: Taheri Consciousness Field. The asterisk (*) displays a significant difference ($p<0.05$) between the TCFs treatment groups compared with control group.

Table 2 RNA copy number of SARS-CoV-2 in the studied groups

Food group	**Food name**	**RNA copy number SARS-CoV-2**				
		Initial	**Control group**	**TCF-1**	**TCF-2**	**TCF-3**
Bread (Group A)	Sangak bread	4×10^{6}	2×10^{6}	$2 \times 10^{5*}$	$1 \times 10^{4*}$	$1 \times 10^{5*}$
	Lavash bread	4×10^{6}	1×10^{6}	$2 \times 10^{4*}$	ND*	ND*
	Barbari	4×10^{6}	1×10^{6}	$1 \times 10^{5*}$	ND*	$1 \times 10^{4*}$
Dairy (Group B)	Milk (high fat)	4×10^{6}	2×10^{6}	$1 \times 10^{5*}$	$2 \times 10^{4*}$	$1 \times 10^{4*}$
	Yogurt drink	4×10^{6}	1×10^{2}	ND*	ND*	ND*
	Buttermilk	4×10^{6}	1×10^{6}	$2 \times 10^{5*}$	$2 \times 10^{4*}$	$2 \times 10^{4*}$
	Yogurt	4×10^{6}	2×10^{4}	$2 \times 10^{4*}$	ND*	$1 \times 10^{4*}$
	Ice cream	4×10^{6}	4×10^{5}	$3.5 \times 10^{5*}$	$3 \times 10^{5*}$	$3 \times 10^{5*}$
Meat (Group C)	Beef	4×10^{6}	3×10^{5}	$2 \times 10^{5*}$	$2 \times 10^{5*}$	$1 \times 10^{5*}$
	Fish	4×10^{6}	3×10^{5}	$2 \times 10^{5*}$	$2 \times 10^{5*}$	$1 \times 10^{5*}$
	Sausages	4×10^{6}	2×10^{3}	ND*	ND*	ND
	Hamburgers	4×10^{6}	4×10^{3}	$2 \times 10^{3*}$	ND*	$2 \times 10^{2*}$
Fruits (Group D)	Apples	4×10^{6}	2×10^{3}	$1 \times 10^{3*}$	ND*	$2 \times 10^{2*}$
	Tangerines	4×10^{6}	1×10^{3}	$1 \times 10^{2.8}$	ND*	ND*

ND: Not detected, TCF: Taheri Consciousness Field. The asterisk (*) displays a significant difference ($p<0.05$) between the TCFs treatment groups compared with control group.

Discussion

The present study demonstrates that TCFs decreased the survival and infectivity of SARS-CoV-2 on different foods; also, the persistence of SARS-CoV-2 in food matrices is highly dependent on both the type of food and the applied treatment conditions (TCFs). Overall, TCF-2 and TCF-3 were consistently more effective than TCF-1, achieving complete viral inactivation in several food groups. These findings highlight the importance of both food composition and treatment conditions in determining viral persistence. The results suggest that TCFs can significantly reduce or eliminate SARS-CoV-2 contamination in specific food matrices. Further studies are warranted to elucidate the mechanisms underlying these differences and to develop treatment strategies with TCFs for diverse food categories. According to these results, it is recommended that TCFs, as a qualitative intervention, be investigated *in vivo* in research on SARS-CoV-2 infection. Also, other studies can be done on the effect of TCFs on other types of viruses.

Acknowledgments

This study was performed at the Keyvan Virology Specialty Laboratory (KVSL) in Tehran, Iran. We thank the members of this laboratory for their assistance in experiments.

Conflicts of Interest

The authors declare no conflict of interest.

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