

## Social Marketing of COVID-19 and Its Impacts on Psychological State of Mothers: A Sudden Case of Diabetes Associated With Stress Resulting From COVID-19

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### Abstract

#### Introduction

Social marketing is used in the medical context to impact the public to achieve certain objectives, including, but not restricted to, the use of oral contraceptives. Media was extensively used to influence people staying at home and keeping social distancing. On the other hand, a lot of stress was accompanied by extensive media use.

#### Study Objectives

To present a unique case of stress- associated diabetes due to the influence of social marketing on

the dangers of COVID-19.

### **Methods**

This was a clinical case study. A mother aged 50 year started complained of severe symptoms of headache and heart problems. Her consultant physician started investigations. A unique sudden increase in glucose level over 600mg/dl was found. The patient did not respond to insulin treatment from one side, and she was resisting the idea of being a diabetic patient.

### **Results**

Other therapeutic perspectives were looked out by the patient. Full investigations with a check list of changes were carried out. At the beginning, the patient expressed a great level of stress due to high level of misunderstanding of a corona related information. She was very worried about the future of her family, including her husband and children. As far as she is watching the media, she was imagining her family in black bags as dead persons, a matter that cannot be tolerated. We started a psychological treatment line with natural herbal remedies. After treatment for up to 15 days, the patient restored normal conditions.

### **Conclusion**

Great levels of stress are dangerous and can lead to severe level of diabetes.

## **Introduction**

New perspectives describing the initiation and progression of diabetes have emerged. In previous studies, we have shown that induced diabetes type 1 in animal models led to abnormalities in white matter through upregulation of inducible nitric oxide synthase (iNOS) and downregulation of heat shock protein 70 (HSP70). These changes were localized in the brain white matter. On the other hand, brain gray matter was not significantly affected [1].

We have further developed the idea of progress of diabetes as having a neurological origin than metabolic syndrome [2]. In general, we have developed a general hypothesis stating that “the Progression of a Disease Depends on Downregulation of Heat Shock Protein 70 (HSP70) And Upregulation of Inducible Nitric Oxide Synthase (iNOS): A New Medical Hypothesis” [3].

Our accumulated research experience led us to revolutionize our thoughts about diabetes, in which we showed that diabetes is accompanied by the production of more insulin than required. We achieved this level of knowledge by analyzing big data [4]. Taken together, we reached the conclusion that hyperglycemic status can be treated using neurological approaches.

## Corona Virus Pandemic and Social Marketing

Alkhatib *et al.* (2020) [5] conducted a study on the updates of Corona. Coronaviruses induce infections that are significant at the clinical and veterinary levels. Coronaviruses are single-stranded RNA, and have a lipoprotein envelope and enter the host cells by a Class I combination protein. Clinically, patients with coronaviruses develop some symptoms such as cough, fever, and headache. Despite the existence of widespread of coronaviruses, vital information remains to be elucidated.

Alkhatib (2020) [6] conducted a study on social marketing of social distancing associated with COVID-19. The author explored the input efforts by the Jordanian government to control COVID-19. The author expressed his views on how the government successfully applied the principles of the social marketing. Social distancing was suggested by the government and applied obligatorily. Social marketing is viewed as an important approach to induce changes in behavior. Furthermore, its importance has reached public health. In any case, it is as yet ignored by numerous general health managers. The problem of COVID-19 has taken attention by all and that was a leading factor for building conflicting scenarios [6].

## Case Presentation

A mother, 51 years, was examined by physicians at the governmental hospital. She had a lot of symptoms, including headache, fatigue, thirst, as well as general depression. After carrying out the required investigations, it was apparent that she had a high glucose level up to 620mg/dl. This was the first priority for patients how to reduce glucose levels. Insulin injection was given to her with limited benefits.

The patient was asking for other therapeutic options. We recommended that she has to be subjected to a therapeutic option involving a psychological plan and herbal remedy. The psychological plan involved in-depth studying the motives and initiatives of her worries. I asked her to tell us what are her concerns. She said: she was very worried about her family. What would be the situation if they were infected with corona virus? How to tolerate my family members died in front of my eyes? I told her that, in Jordan we do not have the risks of Corona as in other countries. However, the patient was given scientific information about COVID-19 without exaggerating or minimizing the situation and how we should support the protective measures taken by the government to protect ourselves and our families. This type of counseling was given daily through Facebook or mobile. The second approach was to cancel the insulin injection and to take a spoon of *Ammi visnaga*. We have previously found that *Ammi visnaga* has beneficial effects against lipids and high glucose levels [7]. We continued both therapeutic options for treatment, and the level of glucose started declining every day. After 15 days, the glucose level was 88mg/dl. The stress level decreased day by day as reported by the patient.

## Conclusions

High stress levels can lead to increased glucose levels and accelerate disease progression. It is very important to include a psychologist as a member of the treating team.

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