

Review Article

## Physical Activity and Meditation “Valuable cost-effective Tools” to keep yourself healthy in Covid-19

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**Abstract:** Salmonella typhi is still considered a health burden in low income countries despite the implementation of vaccination strategies since 1896. The incidence of typhoid fever in some parts of Asia accounts for 10 to 100 cases per 100,000 person-years (1). Typhoid fever typically presents with fever, malaise, constipation and abdominal pain. (2 and 3) Extra intestinal manifestations through hematogenous dissemination (including spondylodiscitis, osteomyelitis, meningitis, etc...) are very rare with a median prevalence of 5-10 % of all salmonella infections (4). Vertebral column invasion secondary to salmonella bacteremia is common in immunocompromised patients, patients with sickle cell disease and very rarely reported in the immunocompetent pediatric patient (5). In this article, we report a case of a 2 years 6 months old immunocompetent Lebanese child, who presented with fever, diffuse abdominal pain and a remarkable abdominal distension of 2 weeks duration, who was found to have salmonella spondylodiscitis.

**Keywords:** Salmonella Typhi (S. Typhi), Salmonella Paratyphi (S. Paratyphi), Spondilodiscitis.

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### SUMMARY

The Coronavirus disease (COVID-19) crisis emerged in December, 2019 in Wuhan province of China has affected almost entire world. On January 30, 2020, the World Health Organization declared the COVID-19 outbreak a global health emergency. <sup>[i]</sup> Virus mainly affects the respiratory tract and is highly infectious when infected person sneeze, cough or exchange respiratory droplets with others. Countries shut down most of the public places and facilities, like parks, schools, swimming pools and gyms as measures to cut down spread. COVID-19 has placed restrictions on the physical activity and lifestyle of people all around the world. Restrictions aimed at minimising the risk of local transmission of SARS-CoV-2 may lead to reductions in physical activity. <sup>[ii]</sup> Globally there are 2, 07, 30,456 cases and 7, 51,154 deaths as on 14 August 2020. <sup>[iii]</sup> As the situation intensifies; fear, stress and uncertainty also multiply.

It's vital to prioritise the health and safety of ourselves, family, friends and the community <sup>[iv]</sup> in this time of pandemic.

Exercise and physically activity with healthy diet and meditation are ways to boost our immune system in this time of stress and uncertainty while maintaining social distancing, masking, cough etiquettes and hand washing.

Exercise is an easy, cost-effective rather free way to boost mental and physical health. It is a tool for weight management and immune system boosting. Exercise reduces the risk of type 2 diabetes, heart disease, stroke and other chronic disabilities. It improves sleep and energy and by releasing chemicals like serotonin and endorphins, elevate mood. At a time like this, it's very important for people of ages and abilities to be active as much as possible <sup>[2]</sup>



**Figure I:** Exercise and risk continuum: Green Zone in the middle showing the beneficial area of exercise

Source: WHO

In present times when going to gym or trainers is not possible due to Covid-19, **workout can be taken online like** you tube platforms. You can build your own workout plans and instead of weights can use household items like cylinders, utensils and packets of food, walk or run on stairs, do push ups, planks, sit ups, dance with music etc. Those who find it difficult to exercise, activities like sweeping floors, vacuuming, general carpentering, mowing the lawn, raking leaves, cleaning windows and pushing a stroller are good enough.<sup>[2]</sup>

Early morning or odd hour's walks, avoiding streets and parks, are better options to minimise risk of spread of Coronavirus. Taking a hand sanitiser (with more than 60 per cent alcohol), maintaining a social distancing at least 2.0 meters and washing hands with soap and water for at least 20 seconds on returning back can protect can further reduce chances of catching of infection with the virus,

WHO's -Be Active campaign<sup>ll</sup> says just by doing 3-4 minutes of light intensity physical movement, such as walking or stretching, will help ease your muscles and improve blood circulation and muscle activity.

**Exercise; how much and how frequent:** It's necessary to know the right amount of activity with right strength for right age.

**WHO recommends** that under 1 year of age at least 30 minutes in prone position (tummy time), as floor-based play, spread throughout the day while awake. Children under five year at least 180 minutes of any activity or at least 60 minutes of this time in moderate to vigorous intensity physical activity is advised. Children and adolescents aged 5-17 years must do at least 60 minutes a day of moderate to vigorous-intensity at least 3 days per week. All adults should do at least 150 minutes of moderate-intensity or at least 75 minutes of vigorous-intensity physical activity throughout the week. For additional health benefits, adults should increase their moderate-intensity physical activity to 300 minutes per week, or equivalent<sup>[1]</sup>

Regular physical activity is a great tool to benefit body and mind. Be it reduction of high blood pressure, managing weight and reduction the risk of heart disease, stroke, type 2 diabetes, and various cancers. All these conditions can increase susceptibility to COVID-19 and exercise is the most single cost-effective measure of preventing them. Physical activity of moderate intensity is good for our mental health. Reduces the risk of depression, cognitive decline and delays the onset of dementia and improve overall feelings. It's a great way to manage stress and strengthen immunity. "Fit individuals" have a lower incidence of infection and reduced risk of chronic diseases compared to inactive and sedentary individuals.

#### **Meditation:**

A recent review involving 20 randomized, controlled trials including more than 1,600 people suggested that meditation may boost our immune system. Meditation isn't a cure but "a consistent meditation practice can help us better respond to stressful situations,"(Ellie Burrows Gluck).<sup>[v]</sup>

#### **Stress management:**

Coping with stress in a healthy way will make you, the people you care about and your community stronger. Prolonged or chronic stress can negatively impact the immune system by reducing the body's ability to defend against viruses and bacteria. Beside that stressed people engage more in drinking excessive alcohol, smoking, a poor diet, or inadequate sleep, which also negatively impact the immune system.<sup>[vi]</sup>

It is okay to feel stressed, anxious, panicked or afraid in Covid-19. Just ground yourself in a safe and healthy ways. Maintain connection with friends and loved ones on Emails, calls or FaceTime and have live-streaming cocktail hours with friends. Children can also benefit from staying connected. Flexibility is the best solution for the time of uncertainty and rapid change. In high levels of stress or anxiety, be mindful to consume media updates.

Sleep: is a great healer. To keep immune system strong, seven to eight hours of sleep each night or in gaps with naps is advised. National Sleep Foundation advises, two naps no longer than 30 minutes each — one in the morning and one in the afternoon to decrease stress or 20-minute catnap during a lunch break or before dinner in time constraints.<sup>vii</sup>

### **To conclude**

A moderate intensity (not high- intensity) exercise can be helpful for healthy people. It will boost your immunity as well as reduce the risk of getting serious complication as well as help to manage stress in this time of fear and uncertainty. However, due to high risk of spread exercise in private environments is safe and recommended in Covid-19 with partial lockdowns in this time. And moderate intensity aerobic exercise like brisk walking, in outdoor environments while maintaining social distancing and other precautions from others can be a good alternative option. But going to public gyms and crowded places must be avoided.

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