

AN OVERVIEW OF THE SOZO MODEL: A SYNERGY OF THREE PHYSIOLOGICAL ASPECTS FOR QUALITY IMPACT IN PSYCHOTHERAPY

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INTRODUCTION

A silver lining of COVID-19 is the surge in adoption of digital health by end users (including patients), patents, and service providers, as well as coverage of digital interventions by insurers and governments. People flocked to well-being apps and telehealth during initial outbreaks and lockdowns to reduce the risks of overloading healthcare systems or contracting or transmitting COVID-19. The top 10 well-being apps generated 2 million more downloads (a 25 % increase) in April as compared with January 2020.ⁱ Virtual consultations as a proportion of total US outpatient visits spiked from less than 0.01 percent before the pandemic to 69 percent in mid-April, before subsiding to 21 % in July.ⁱⁱ Particularly for pre-existing anxiety and depression, teletherapy compensated for fewer in-person visits and reversed an initially steep decline in care delivery. As the pandemic continues, digital health is becoming a new norm. Among respondents to a global survey by Oliver Wyman, 59 percent of those who used telehealth this year plan to continue using remote healthcare because it saves time and costs — with users in China, Germany, and Singapore the most eager.ⁱⁱⁱ Even as clinic and hospital visits resume for physical ailments, phone or video consultations remain popular for mental health, which does not typically need in person services such as physical examinations, laboratory tests, or surgical procedures.^{iv} Employer and insurer expectations are changing in step. Two-fifths of health insurers are considering adding video-chat counselling services to group benefits plans — with high potential uplifts in Asia and the Middle East, and further extension of relatively high levels of coverage in Latin America. In this regard, the application of the SOZO Reset Model plays

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an amicable role for a plausible solution. The SOZO reset model will attempt at investigating and approaching psychotherapy through the lenses of psycho-neuro-immunology, and other medical models.

For decades, psychotherapy has been guided and lead by observation, regular evaluation and assessment of human behavior with lesser validation on evaluation of the success of psychotherapy using neuroscientific testing. In recent years research has evolved and is increasingly linking

mental health disorders with imbalance in various physiological factors in human body such as sleep deprivation, poor nutrition, stress and quality of thought life (mental hygiene) of an individual. (Irwin, Olmstead & Carroll; 2015) This model will consider a complete inventory of a patient's physiological conditions possibly contributing to declining mental health using various assessment tools in the medical model such as fMRI, brain perfusion scan, multiple sleep latency test (MSLT), polysomnography, viom gut bacteria test etc. With the overview of all or most of the aforementioned test results, the psychotherapeutic model will be carefully woven around it while monitoring the above factor on a periodic basis to build a treatment plan.^v

BETTER DATA AND ACCESS

The SOZO reset model for mental health gather data and deliver support through ubiquitous devices — smartphones, tablets, notebooks, and wearable devices — whose reach and flexibility can reduce some longstanding barriers to access and utilization. Traditional services have limited availability (too few mental health professionals), limited accessibility (even fewer outside major cities and office hours), limited affordability (high costs), and limited acceptability (take-up often stigmatized). Against a backdrop of limited resources and increasing need, The SOZO reset model present an opportunity for patents to understand employee needs better and scale up support at lower per-capita costs. Spotlight on problems: By collecting data routinely and at scale, The SOZO reset model can help patents identify unnoticed and emerging areas of need and improvement — such as stress hotspots, service gaps and quality, and access and utilization barriers. For example, quizzes and pulse checks in

a frequently used app could chart users' well-being, support needs, or satisfaction with services over time, adding to an employer's own surveys that are often hobbled by low completion rates. Pooling aggregate and anonymized data on physical, mental, and financial well-being from different sources — for example, in-app quizzes, employee assistance program (EAP) utilization, and claims data — patents can understand the true scale of mental ill health and spot factors that impair or improve patients' well-being.

Data-driven interventions:

The SOZO reset model can improve the diagnosis and treatment of mental ill health by facilitating measurement-based care.^{vi} Primarily, clinical practitioners can gather standardized data easily and often, including validated, structured rating scales for the frequency and severity of symptoms — to overcome both users' recall bias and providers' treatment inertia. Second, The SOZO reset model can passively monitor factors that affect or indicate emotions, moods, and behavior — such as users' sleep, activity, location, voice, and keystroke patterns — to augment clinical ratings or patients' journals or memories. Over time, such digital biomarkers and phenotypes could better predict risk, response to treatment, recovery, and relapse, facilitating personalized interventions that improve outcomes and reduce costs for patients.^{vii}

De-stigmatization:

The SOZO reset model have the potential to reduce public prejudice and internalized stigma attached to mental ill health, which are major barriers to patients seeking support even when it is available. Apps, websites, and message boards can educate vast numbers of people, counter negative stereotypes, reduce isolation and shame, and increase motivation to seek care. For example, they can highlight the prevalence of mental ill health, the support and treatment options available, and the possibilities for recovery or long-term management to sustain productive, successful jobs and lives. Tools that let users communicate by text or chat can

provide anonymity and remote access, reducing feelings of awkwardness or fears of being found out or judged by peers or patients.

Awareness and empowerment:

The SOZO system is a medical device system comprised of hardware and software. The SOZO system hardware components are the SOZO Device and the Tablet. SOZO system software is made up of the SOZOapp and MySOZO. Users may access the SOZO system through the SOZOapp on the Tablet, or by the internet through MySOZO.com. The SOZO reset model can help patients become aware of symptoms, triggers, and risk factors (their own and those of friends, family, and colleagues), learn which interventions are appropriate at which stage, and how to get or encourage others to get the right support. For example, wearable devices that track sleep and physical activity can alert users to upward or downward trends and advise on interventions to reduce stress and stabilize or improve mood. A 2019 survey showed that more than half of workers were willing to manage their well-being using wearable technologies. Knowing what to do, when, how, and why can equip patients with the motivation and skills to take better care of themselves, seek appropriate and timely support, and persevere with well-being or treatment plans.^{viii}

Access to treatment:

The SOZO reset model can reach more people promptly, conveniently, and often. Chronic clinician shortages — particularly in rural areas and poorer countries — result in long delays for traditional services. A 2018 poll found that more than half of adults in the UK diagnosed with a mental illness waited more than four weeks to see a specialist,^{ix} prolonging distress and increasing the risk of severe consequences such as job loss, divorce, or even suicide. The SOZO reset model can reach patients when and where they need them. Two-thirds of users of Together all (a peer support website) log on during out of office hours. Patients who receive iCBT while waiting for in-person therapy do better than patients who wait without digital support.^x The

SOZO reset model can also extend in-person or teletherapy sessions to provide more frequent interventions and reinforce new skills.

Lower costs:

Traditional face-to-face services are expensive, and The SOZO reset model can bring down costs for patients and insurers in two ways. Primarily, The SOZO reset model have lower marginal costs and provide cost-effective ways to scale up services — for example, resilience training delivered online can reach more people than in-person training for the same cost, and iCBT is cheaper than face-to-face sessions.^{xi} Second, blended care can also reduce overall costs per person — by reducing the time spent by clinicians, a combination of teletherapy and iCBT lessons and exercises from Lyra Health costs 25 percent less than virtual therapy alone.^{xii}

APPLICATION OF THE SOZO RESET MODEL

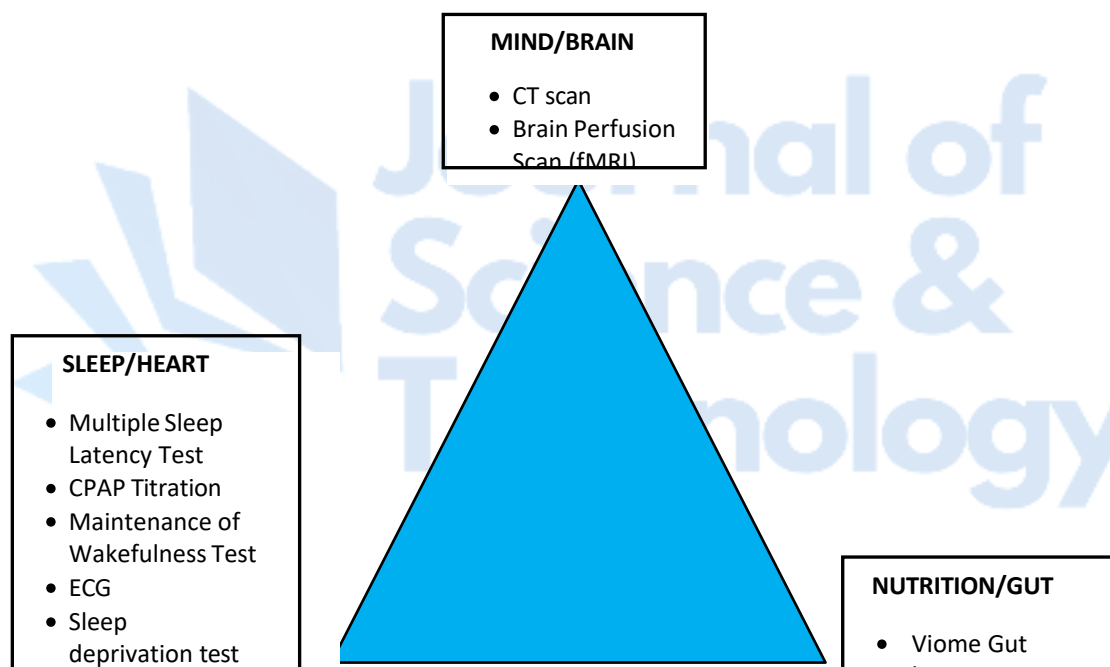
The SOZO reset model will focus on three important factors to achieve a lasting therapeutic impact i.e.:

- **Brain-mind aspect:** the brain-mind aspect will investigate on how one's thought life, daily stressors are tangibly impacting and hindering normal brain functioning and causing damage in some cases. Our mental health is influenced by how we think, feel, and respond on a daily basis. It also affects your ability to cope with stress, overcome challenges, build relationships, and recover from life's setbacks and hardships. Psychosocial stressors are also a well-documented risk factor for mental illness. Neuro-inflammation, in particular elevate microglial activity, which has been proposed to mediate this association. A number of pre-clinical studies have investigated the effect of stress on microglial activity.
- **Sleep-heart aspect:** the sleep-heart aspect will similarly focus on how unhealthy sleep/interrupted sleep patterns are impacting the heart health and contributing to the

decline in mental health. Sleep disturbance is associated with inflammatory disease risk and all-cause mortality. We have research evidence linking sleep disturbance, sleep duration, and inflammation in adult humans.

- **Gut-nutrition aspect:** the gut- nutrition aspect will focus on the quality of gut health of an individual. Research has led to a richer understanding of the role the gut microbiome plays in mental health, including anxiety and depression. Recent studies have been linked to a number of mental and developmental disorders to the gut microbiome.

This model will clearly be proving as a collaborative approach model to Psychotherapy in achieving a holistic and lasting result towards mental health and well-being. Therefore, the



brain- mind aspect located at the top of the pyramid will be the essential component to be measured while supported by the other two aspects on the pyramid; the sleep-heart and gut-nutrition aspects.

AN INTERNATIONAL BEST PRACTICE

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Singapore's Ministry of Health through the Health Promotion Board is building an Sozo reset model online portal that will serve as a trove of resources for mental health.

The website will feature mental and wellbeing content "curated by experts". The information will be a resource for "individuals who want to find information for themselves or their loved ones". It will be introduced on HealthHub, the ministry's web and mobile app-based platform that hosts a range of health content, rewards, and e-services. According to ImpediMED, the Sozo device uses Bioimpedance, which refers to the **process of sending a painless electrical current**, typically at one or more frequencies, through the body.^{xiii}

According to a press statement, the HPB is planning to launch the pilot web portal in the later part of this year.

WHY IT MATTERS

The development of an Sozo reset model online portal for national mental health resources is one of the key recommendations by the COVID-19 Mental Wellness Taskforce (CoMWT) to address the psychosocial impact of the pandemic on the Singaporean population.

The task force said the existence of numerous online resources on mental health and wellbeing can be "confusing and overwhelming" for those who are seeking information. Based on engagement sessions of the Youth Mental Well-being Network with over 1,500 individuals, there are some concerns with the "currency, legitimacy and credibility" of the information found on various online sites.

THE LARGER CONTEXT

Aside from the need for a one-stop online repository of resources around mental wellness, the CoMWT, which was set up last year in October, identified two other key issues that must be addressed through a whole-of-government approach: The need for an overarching strategy to

guide the alignment and track the progress of efforts around mental health across government agencies; and secondly, a better alignment of mental health training resources and more trained mental health professionals.

Given these issues, the health ministry moved forward with expanding the task force into an interagency platform that will primarily oversee the implementation of the recommended actions on the stated issues.

It will supervise the development of a national mental health and wellbeing strategy, which will be developed through a public consultation for next year. After the national strategy is formed, it will then track the progress of its implementation and impact. ^{xiv}

The interagency will also coordinate efforts and monitor outcomes, "focusing on cross-cutting issues that require multi and interagency collaborations". The new body will be led by Dr Janil Puthuchery, senior state minister of the MOH.

Moreover, the task force has recommended setting up a national mental health competency framework with a common set of training standards and degrees of competencies expected of professionals and paraprofessionals who support persons with mental health conditions.

Based on in-depth research conducted by the Institute of Mental Health (IMH) about 13% of over 1,000 Singaporean adults polled between May 2020 and June 2021 said they experienced symptoms of depression or anxiety.

Over half of youth respondents surveyed by the National Youth Council claimed that the pandemic has challenged their mental wellbeing. Top stressors cited were anxiety over the future, stress over finances and worries about academic or work performance.

Another study conducted by the Singapore Management University's Centre for Research on Successful Ageing found a "stark" increase in feelings of isolation among the elderly since the imposition of a lockdown in April last year.

The IMH has observed a 50% rise in calls made via its Mental Health Helpline last year compared to the previous year. Although it gradually waned by the end of 2020, there was an uptick again between January and May this year. Callers cited concerns such as anxiety from work-from-home adjustments or home-based learning and social isolation.

The National CARE Hotline, another service that was launched to provide psychological aid and emotional support, has received over 45,000 calls as of May this year. The top three issues heard through the hotline were the need for emotional support, mental health-related issues and family-related or social matters.

To support Singaporean citizens' mental health, various government agencies and non-profit organizations launched or expanded some 40 initiatives during the pandemic.

One of these is mindline.sg by the MOH Office for Healthcare Transformation. It is a web-based repository of resources and tools to improve mental wellbeing. Users can access a clinically validated self-assessment tool through the portal to understand their state of emotional wellbeing. Based on the assessment, the platform can recommend appropriate intervention and support channels.

ON THE RECORD

"To succeed, we need to internalize the lessons learnt, not only in managing infectious diseases but also in addressing the mental health needs of the population moving forward. This is one of the key reasons why we have evolved the COVID-19 Mental Wellness Taskforce... to look at addressing the population's mental health in the longer term, with a focus on cross-cutting issues across agency lines," Masagos Zulkifli, Singapore's second Minister for Health, said in a speech delivered at the Singapore Mental Health Conference on 17th Feb 2022.^{xv}

STRUCTURAL AND CULTURAL REFORM

Even the best SOZO reset model can not only identify, effective treat psychological symptoms and disorders. But, can bring about a significant drop in psychological disorders at work, and they would not diminish the need to reset and enhance living and working conditions worldwide. In every crisis, there is an opportunity — COVID-19 presents businesses and societies with a chance to mitigate structural and cultural flaws and inequities that contribute

to the incidence or course of workers' poor mental health. Patents can and should identify and alleviate workplace risk factors such as low pay and financial stress, unmanageable workloads, low autonomy or control over lives and jobs, and toxic work cultures or exposures. More broadly, patents have an opportunity to support and protect the well-being of patients who endure chronically stressful environments and experiences, including racism, homophobia, discrimination, domestic abuse, or conflict and violence.^{xvi}

CONCLUSION

There is no vaccine for mental illnesses, which UAE is even less prepared to address than COVID-19. Health systems and societies across the continent need to double down on their efforts and recognize that given the sheer scale of the problem, “copying and pasting” existing offline services into the digital realm will not be sufficient. There must be more innovation, followed by R & D, from the region. Regulations need to be developed further, specifically for digital mental health, while data protections must be better balanced with ease of (proper) access. Innovators need to prioritize evidence of efficacy and return on investment, while corporates and investors need to allocate funding to mental health. Philanthropists should recognize the outsize role they can play in this whitespace, while mental health practitioners must explore collaborations in an increasing range of fields. The UAE can follow the best practices of Singapore, Korea, and the United States of America.

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