



The Placebo Effect on COVID Patients: When the Mind Cures the Body

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

In this time of novel coronavirus (COVID-19) when everyone is looking for the right treatment and the vaccine a psychological effect can really help make the situation better at homes. There is no doubt in an ideology that the human mind is a compelling tool and so powerful that it is well aware about the concept of placebo effect. It somehow convinces the human body that the placebo medication given in the procedure is equivalent to the proper Medication. This paper aims to analyses the placebo effect in curing the pain and its role in curing the symptoms of the novel coronavirus (COVID-19) because it is possible that this method may have healed the body of COVID patients. This has been done by considering the related experiments and researches of placebo effect. In this paper conducting the online survey which is help to find the placebo effects on the COVID-19 Patients and taking their opinion towards it and 280 patients for using as a sampling which help to find the approximation of placebo effect on COVID-19 patient. The influences of the placebo effect on the medical business and COVID treatment both have been highlighted. A discussion in futuristic sense about the placebo effect in treatment of COVID-19.

Keywords: COVID-19; ethics response; placebo effect; medical commercialization; psychotherapy.

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1. INTRODUCTION

In spite of the advancements in the medical treatment and the impressive enhancements in the technological aspects of the medical equipment, but the medicine sector is still being criticized for just relying and only acclaiming the modern biomedical treatments and procedures [1]. Not even appreciating the homeopathy and physiological medicinal traditional treatments the much they deserve. But the fact is even though modern medicine is not accepting the benefits and magical aspects of homeopathy and psychosocial aspects of human health it somehow proves it's important from time to time [2]. From Ayurvedic kadha by homeopathy to the placebo effect treatment of psychological science both the medical sciences plays an important role in treatment of the severe symptoms of the COVID-19. This paper will focus on the concepts of the placebo effect. Placebo has managed to sustain dramatic medical changes throughout the ages. Placebo effects have been considered as strong deceptive psychological therapies for centuries [3].

Initially when the COVID started spreading and due unavailability of any medicine or drug for treating the symptoms of the deadly virus, the existing medicines were utilized for the treatment. Handful drugs manufactured by the companies based on the existing knowledge used to treat the similar other symptoms, and also acclaimed as effective in the initial stages of the coronavirus treatment on the basis of the conducted clinical trials. For instance, a study conducted in France on 30 COVID patients and using the hydroxychloroquine (HCQ) drug is used on them as an effective medicine. HCQ drug is primarily meant for the prevention and treatment of malaria disease as well for treating rheumatoid arthritis, HCQ is one of the popular drugs which emerged in the market as a repurposed drug to prevent and treat the symptoms of the COVID-19. It was also acclaimed worldwide for the adequate results in recovering the corona patients. This is highly used in India, US and Brazil and other countries as well in the treatment of COVID-19.

An important study conducted to estimate if these drugs really worked. The World Health Organization (WHO) conducted the 'solidarity trial' on four corona relief claimed drugs which includes the tocilizumab, interferon, HCQ and another one is lopinavir. The trial was continued for 6 months in thirty countries by WHO, which

also includes India. More than four hundred hospitals have over eleven thousand patients. The WHO concluded that the used four drugs have almost no effect or very little effects on the hospitalized COVID-19 patients. As represented by the overall resultant mortality rate, demand of ventilators and ventilation support and the duration the patient stays in the hospital". Then why the buzz among people spread, did these medicines really have positive effects initially also? The answer of this question lies in the Placebo effect. The whole idea is oriented around the brain of people, the thought process of the brain which convinced the human body that the given fake treatment was the right treatment and was a real thing. According to the homeopathy experts the perceived outcome can be achieved most probably due to the placebo effect. A placebo can be anything or any medication that seems like a real medical treatment but in reality it's not. Placebo can be a vaccine, tablets, or some other mode of fake treatment method. The only common thing among all types of placebo ingredients is that they do not consist of any active substance which could affect human health [4].

The most common reason why this effect works on the human mind and body is because of the expectations of the person. If the person is expecting that a pill would do something, then possibly the body's own chemical chemistry effects somehow with activities that affects kind the similar way that a proper medical treatment might have given. There is a relationship between with how much emphasis a person has expectations to have positive outcomes and corresponding to it the result occurring. Placebo effects are now associated with all kinds of medical interventions which take place. By a placebo controlled trial in which a direct comparison is carried out of an inactive dummy type treatment method with experimental treatments. This is kind of the routine trial of the medical researches to find out whether the new discovered treatment methods are affecting the symptoms more than the effects done by the placebo method.

Placebo only produces the expected results even if the patient knows about the placebo treatment but only if some certain conditions are followed to carry out the process. Considering the studies it's proven that placebos can have appropriate effects on the issue like pain, menopause, sleep disorders, depression and even in irritable bowel syndromes [5]. In the race of COVID vaccine

development all the candidate companies are using this trial method for the best possible results. But the similar results come in the cases in terms of the negative effects of the placebo treatment. People think about and have expectations that it might show side effects like headaches, drowsiness or maybe nausea. There would be huge chances that these symptoms might start happening in the patient's body. The fact that the placebo effect is tied to expectations doesn't make it imaginary or fake. Some studies show that there are actual physical changes that occur with the placebo effect. According to a research of medical universities including Harvard on 21,603 adult Americans they took their data to estimate how many of them took multivitamins and felt that they have better health benefits from the medicine. 4,933 of the total participants took multivitamins for a long time and about 30% who considered themselves healthier. However, no proper evidence available that the intake of multivitamins actually improved health as both category people had almost similar rates of illness and chronic diseases.

1.1 Placebo Effect

Placebo effect is way more than just a positive thinking, belief in the treatment and respective procedure surely works for the improvement of the patient. Placebo is a psychological medical treatment process which can affect a person though the response can be positive or sometimes negative. Means the patient either gets healed means his symptoms would improve or some side effects may start appearing in response to the negative effect of the placebo [6]. These responses come under the placebo effects. To understand the concept more clearly refer the Fig. 1. Research on the placebo effect majorly focuses on the divine relationship of mind and the body. Despite of knowing the exact placebo working a thing is clear that a complex neuro biological reaction is part of this process

which consists of everything from the increase in the neurotransmitters, like dopamine and endorphins to the major activity occurrence in the certain parts of the brain affecting the emotional reactions, mood and most important the self-awareness [7]. Overall these activities have therapeutic advantages. Basically the placebo effect is a process in which the brain can tell the human body what it actually needs to get relaxed and feel better.

1.2 The Ethics of Giving Placebos

Placebos are considered in two most frequent ways in the medical sector, first in medical research and inventions as tools for reducing the errors of the invention and to increase the outcome capabilities of the research in the clinical trials and the other is it is used in the clinical practical scenarios for the therapeutic medication. In these both the utilizations the major ethical issue can arise whenever the main key protocols, considerations for the practice philanthropy or other important requirements and standards are violated [8]. These ethical concern associated to the placebo effect has to be considered, people believe a myth that placebo only effects and works when the process is executed without telling the truth and the knowledge about the placebo methodology to the considered patient but there is also researches available which supports this fact that the placebo treatments gives adequate results even if it is conducted in the prior knowledge of the person as well it gives positive response. So there is no reason left to implement it without the permission of the individual. Even in scientific trials it is important to be conducted in an ethical manner so that a perfect simulation of the results can be achieved and so the product [9]. So it should be utilized in the ethical way without causing any complications as it is the most natural treatment one can get.

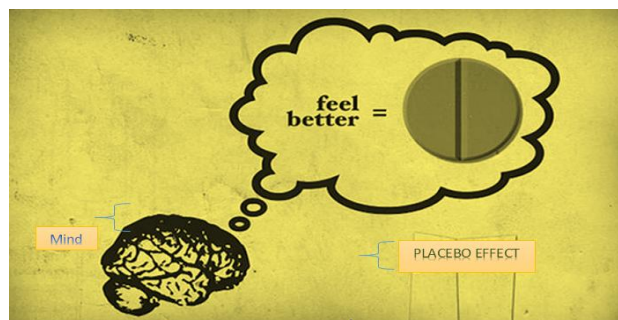


Fig. 1. A pictorial representation of the placebo on mind and the corresponding placebo effect

1.3 How Can The Placebo Effect Be Used For The Real Treatment Of COVID Patients?

According to new research published in the Nature Communications, the placebos reduce the brain preceptors of emotional distress and anxiety. So even though the people are aware about the fact that they're consuming the fake drugs which are just an inactive substance they continue believing it as a real treatment. Placebo effects mostly or say usually occur only when a patient unknowingly is given this treatment and a fake treatment process is conducted on the patients without their knowledge. But there is also a growing subdivision of researchers and researches that believes and study indicates that the placebo effect can be noticed even when people are aware about it and it's methodology that what they are taking is just an illusion and a dose of inactive tablets.

The study suggests that how multivitamins placebo effect affected the people due to their strong perception towards the multivitamins can change their mindset that it really boosts the health of individuals. It proves that the effect of positive belief and expectations in the magic of multivitamin drugs actually affects the mindset of the customers. Addition to it the advertisements intruded the sales of the multivitamins supplements focusing more on the population known as worried-well. While the use of placebos has seen a decline in recent decades as a clinical tool but still catches speed as a methodologic trial research tool to test the novel invention in the fields of the medical advancements of the equipment and the

methodology. Even in times of vaccine invention race the placebo effect trials are considered to test the quality and effect of the vaccine, using a comparative trial on the experimental categories. So a recent surge trend has been seen as well in its medical use and it has emerged as big for the treatment as well as in the methodological researches. This paper is for the people who are interested in the placebo effect and its impacts on the medical treatment and medical sector.

1.4 Research Question

1. What is the placebo and Placebo effect? How is it demonstrating the relationship between the human body and the powerful human mind?
2. What are challenges involved with the placebo effect? How it is affecting the medicine commercialization in the market and its impacts?
3. How can placebo effects be utilized in the treatment of the COVID-19 symptoms? Is it really useful to treat the symptoms and conditions of the patients?

1.5 Literature Review

Placebo and effects of Placebo have a vast concept in the field of medical science as it is the new way, using placebo comparison trials are conducted to evaluate the significance of any type of new invention in the medical sector based on the comparative study with the experimented group of practitioners. Since it is important, these are various studies and researches that have been carried out on this subject.

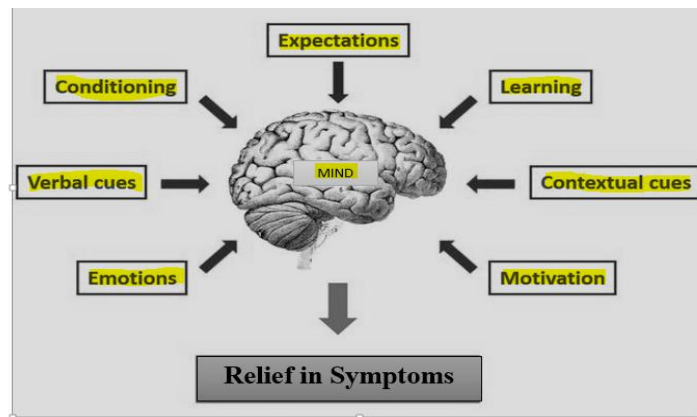


Fig. 2. This picture represents that the expectations, motivation and learning aspects can give the mind a way to convince the positive effects of the fake treatment on the body

A paper with title "Placebos, Placebo Effect, and the Response to the Healing Situation: The Evolution of a Concept" written by Mr. Yiannis G. Papakostas and Michael D. Daras. The paper incorporates the study of the placebos and discusses the process and healing effect of the placebos [10]. Though it doesn't include any practical study related to the effects of the placebos which will be discussed by our paper taking the case of COVID-19.

Another paper considered for this study is "The placebo effect: illness and interpersonal healing" written by Franklin G. Miller a Ph.D, Luana Colloca, and Ted J. Kaptchuk. The paper gives an hypothesis about the placebo effect that it operates predominantly by the doctors for producing the relief in the symptoms of some issues, such as depression, anxiety, and pain, instead of modifying the chemistry of the body for disease treatment [11]. Our paper used some of the findings and concepts mentioned in the paper related to the placebo effect.

Yeming Wang et al. explained about that they did the randomized placebo- controlled, double-blind multicenter trial in Hubei 10 hospitals. The criteria of Adults patients is (aged 18 years) that admitted to the hospital with laboratory-confirmed SARS-CoV-2 infection, an interval of 12 days or less from symptom onset to enrolment, oxygen saturation of 94 percent or less on room air or a ratio of arterial oxygen partial pressure to fractional inspired oxygen of 300 mm Hg or less, and radiologically confirmed SARS-CoV-2 infection were qualified. Pneumonia was confirmed. Intravenous remdesivir (200 mg on day 1) was given to patients in a 2:1 ratio. Followed by 100 mg in single day infusions on days 2–10), or the same amount of placebo infusions for ten days [12].

2. METHODOLOGY

Placebo effect is also affecting the medical market in a sense that companies are using this phenomenon for their profit by taking benefits from the expectations and fear. The best example of it would be the People taking the multivitamins supplements regularly. Though they feel it makes them healthier, there's no adequate evidence available that these medicines really affect them in a good manner. And in fear of expectation people actually end up expanding far better money than they would have cost to treat some chronic disease.

2.1 Design

The research design of the research deals with the Placebo Effect on COVID Patients when the Mind Cures the Body which help to find the positive and negative effects of the Placebo. The research conducted online survey in which investigator ask several questions which is help to find the effects of placebo on COVID Patients. A study conducted people living in the different states taking feedback towards it.

2.2 Sample

The information gathering procedure is completed by the help of survey questionnaires. These questionnaires were asked from different people who are suffering from the COVID-19 situation and that time they were taking placebo as cure of COVID-19. But different people give different opinions towards the placebo medicine because the placebo medicine is good for the cure of COVID-19 but it will also depend on the multiple behavioral, neuroimaging and psychophysiological of the person. So the questionnaires asked to the 280 different peoples who are affected by the COVID-19 and taking placebo.

2.3 Data collection

In this study, investigator collects all the information which is related to the placebo effect on COVID-19 patients. The data collected from the different peoples of the different state by asking the questions and also taking their opinions towards the placebo medicine that how much it will affected the COVID-19 and what are the positive and negative effects of the placebo medicine on COVID-19 Patient. This study structure by asking several question which is shown below.

- 1) Does Placebo has the positive impact on COVID-19 Patients?
- 2) Does Placebo help to overcome problem of COVID-19 for a certain time?
- 3) Can everyone take the Placebo medicine?
- 4) Is there any side effect of Placebo?
- 5) Does Placebo shown the affect range of the health condition?
- 6) Does placebo actually effect the COVID-19 Patients?
- 7) Does Placebo has the self-healing properties which is help in the cure of COVID-19?

- 8) Does placebo is the medicine which is only taken by the doctor consultant?
- 9) Does placebo impact depend on the behavioral, neuroimaging and psychophysiological of the person?

After collecting the data through the survey which is shown in Table 1. The information collected through the COVID-19 patients which are taking the placebo as the cure of COVID-19 and gives there opinion towards that how much it will be affected for the COVID-19 Patients. It will also help to understand the impact of Placebo according to the different age group and how it will help to find the different age group cure of COVID-19 through the Placebo.

2.4 Data Analysis

An experiment was conducted with 280 participants in total, the researchers showed groups of people a series of emotional images. This research paper suggested the sampling which is done by the online survey during the COVID-19 Pandemic. In this survey asking different question of the different people of the different state. The data shown in the form of graph which show the analyzing the research. Fig. 3, shows the Placebo effects on the COVID-19 Patients and also show the opinion of the people by asking the question.

3. RESULTS AND DISCUSSION

In this paper author discussed about the Placebo effects on COVID-19 Patient in order to conduct various studies about the placebo effect that becomes important on the ongoing pandemic. Pandemic leads to lockdown scenario around the world, people were locked inside which ultimately increased the cases of depression and suicide. When all the medical authorities and institutions are busy developing the vaccine a proper placebo treatment can heal the mind as well the body together without any severe chances of the side effects. The paper also discusses how different medicinal or other businesses are using the unawareness about the placebo effect among the people and making big money with their fake claims and promises. This is so huge that the overall market of this huge empire of fake multivitamins and other products that it contributes a huge amount in the overall economy of countries worldwide. A through discussion is done on how the placebo and its effect can help in the treatment of the symptoms of the COVID-19. It is very helpful to relax the

mind and body of the people locked inside the homes during the lockdown which increases the depression and leads to the suicide attempts.

Placebo effect just not improves the condition of such patients but it can also help in the improvement of the basic symptoms of the COVID-19. A large analysis of the placebo effect could result in discovery of some fantastic facts and concepts about the placebos. The evidence provided by the study is that these non-illusory placebos impact the neural responses of the mind. Which are directly relevant with the emotions processing's, so by raising the hopes of the patients they can be used for the treatment of the certain types of the mental disorders. Placebo effects on a fundamental basis were used as a comparison category in recent times only but since the COVID spread in the most prevalent way and the way cases of depression, suicides and the sleep disorders increase placebos arises as a most significant option for the treatments of these diseases. It's just not limited to these problems we saw previously in paper how placebo effects affect so many countries and increases the use of existing drugs in the market. It proved as a significant methodology for the treatment of psychological health issues as well the physical health.

The outcome of the study mentioned in the analysis section says that the participants of the first non-deceptive category self-reported the least distress on seeing a kind of negative emotions image compared to the resultant outcomes of the members of the control group. Means the research shows the decrease in the discharge of emotional neural and hormonal that distress the person. These findings shows that placebos can still provide positive effects even if the patient knows about the fake treatment taking through the placebo," Hence these result provides at least the initial support to the use of the placebos and its use in the medical clinics. The outcomes are in line with some relevant findings of the previously conducted research. Which has concrete preliminary evidence about the fact that the non-deceptive method of placebos are incorporated in the reduction mechanisms of the anxiety and depression level. It will definitely help the reduction of the requirement and demanded amount of the traditional western medication patients mostly believe and ask for. The later finding related to this treatment method will be tremendously awaited consequences and behavioral effects. After doing the survey on placebo effect on

COVID-19 Patient which presented that 45% of patients said yes placebo effect on COVID-19 Patient that, 35% employees said no that

placebo does not effect on COVID-19 Patient and 20% patients gave an answer in neutral state which is shown in Fig. 4.

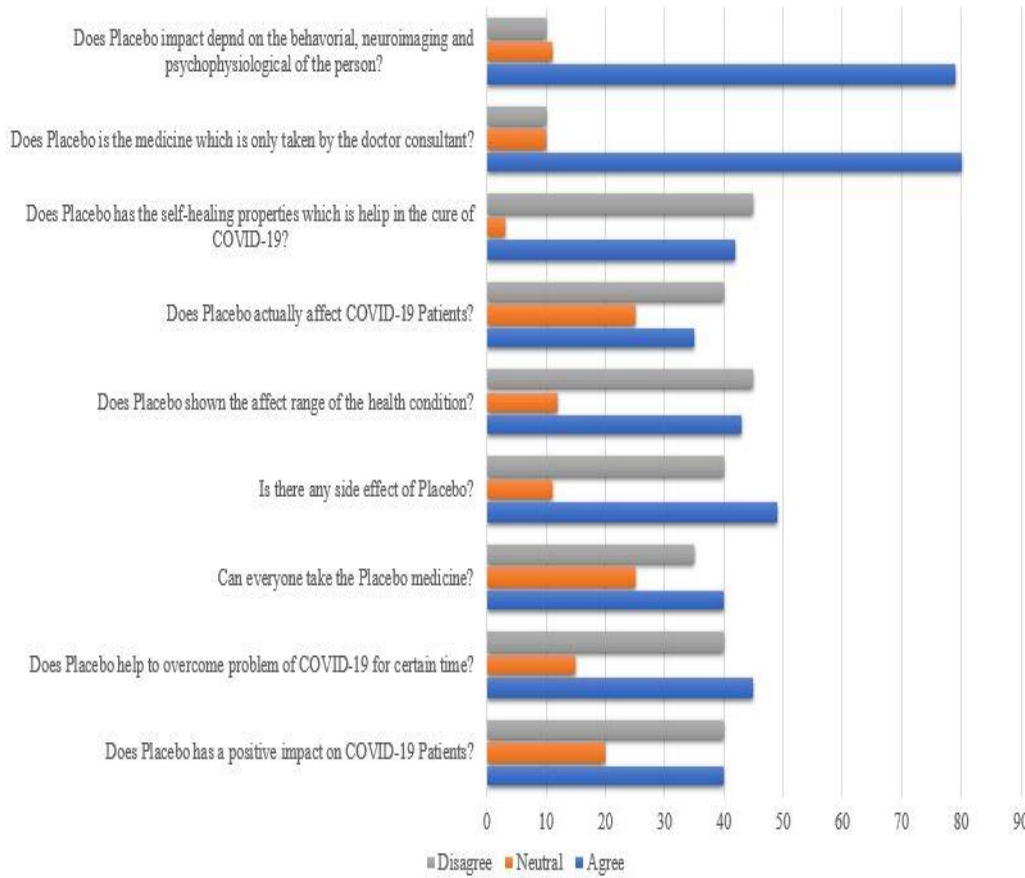


Fig. 3. This graph shows the placebo effect on COVID-19 patient

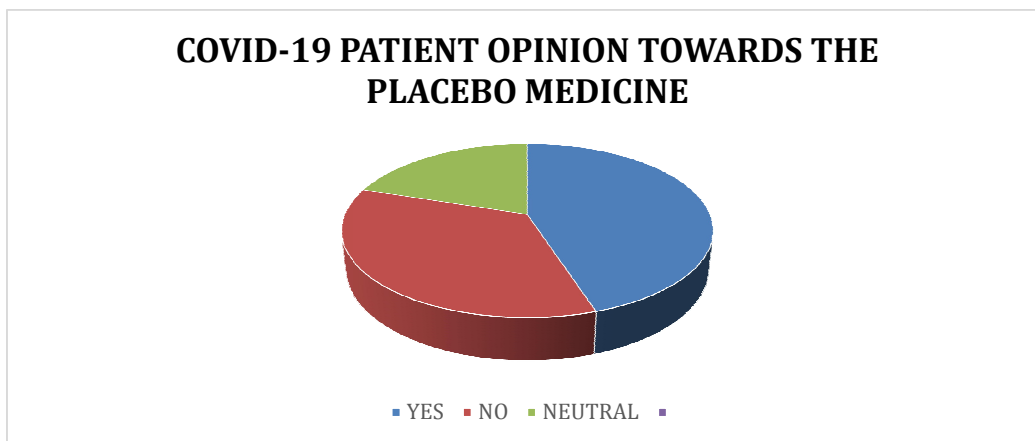


Fig. 4. This graph shows the COVID-19 patient opinion towards the placebo medicine

Table 1. The given table shows the placebo effects on COVID -19 Patients

S.No	Question asked towards placebo effects on COVID-19 patients	Agree	Neutral	Disagree
1	Does Placebo has the positive impact on COVID-19 Patients?	40	20	40
2	Does Placebo help to overcome problem of COVID-19 for a certain time?	45	15	40
3	Can everyone take the Placebo medicine?	40	25	35
4	Is there any side effect of Placebo?	49	11	40
5	Does Placebo shown the affect range of the health condition?	43	12	45
6	Does placebo actually effect the COVID-19 Patients?	35	25	40
7	Does Placebo has the self-healing properties which is help in the cure of COVID-19?	42	13	45
8	Does placebo is the medicine which is only taken by the doctor consultant?	80	10	10
9	Does placebo impact depend on the behavioral, neuroimaging and psychophysiological of the person?	79	11	10

4. CONCLUSION

This paper aims to analyze the placebo drugs and placebo effect between the human mind and body. To increase the understanding and the concepts behind the science of the placebo effect. The study gives a brief introduction about the safe therapeutic environment placebo treatment provides and also the potential healing power. Placebo effect is so powerful that using these effects a sector of industry is making huge money which leads to a stable empire in the market as well. This evident study shows how Placebo effect depends on the mindset and expectations of the patient taking the placebo treatment. A mind full of positive attitude towards the treatment method and effect leads to magical effect in that case it doesn't matter that the patient is aware about the placebo effect and its strategies or he has complete information and knowledge related to the treatment.

The ethical concern related with the placebo effect is also considerable, as according to critics a myth is engulfed everyone that placebo effect only works when it is given unknowingly to the patient but there is researches available which support the fact that the treatments provided in the knowledge of the patients as well gives positive results. So it can be used in the most ethical way as well. Such a work needs a thorough knowledge of the placebo phenomena. Researchers and medicine scientists still have

much to find out about the non-deceptive methods of placebos and their corresponding effects.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Vindegaard N, Benros ME. COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. *Brain, Behavior, and Immunity*; 2020.
2. NCT02666989. Open-label placebo for the treatment of depression; 2016. Available: <https://clinicaltrials.gov/show/NCT02666989>
3. Hrobjartsson A, Gøtzsche PC. Is the

- placebo powerless? an analysis of clinical trials comparing placebo with no treatment. *Obstet. Gynecol. Surv*; 2001.
4. Zhou Z, Zhao N, Shu Y, Han S, Chen B, Shu X. Effect of gastrointestinal symptoms in patients with COVID-19. *Gastroenterology*; 2020.
 5. Stone JH et al. Efficacy of tocilizumab in patients hospitalized with Covid-19. *N. Engl. J. Med*; 2020.
 6. RG, PA, GT, MM, TF, TM. The knowledge of contextual factors as triggers of placebo and nocebo effects in patients with musculoskeletal pain: Findings from a national survey. *Front. Psychiatry*; 2019.
 7. Fournier JC, et al. Antidepressant drug effects and depression severity: A patient-level meta-analysis. *JAMA - Journal of the American Medical Association*; 2010.
 8. Rossettini G, Palese A, Geri T, Mirandola M, Tortella F, Testa M. The knowledge of contextual factors as triggers of placebo and nocebo effects in patients with musculoskeletal pain: Findings from a national survey. *Frontiers in Psychiatry*; 2019.
 9. Sterne JAC, et al. Association between administration of systemic corticosteroids and mortality among critically ill patients with COVID-19: A Meta-analysis. *JAMA - J. Am. Med. Assoc.*; 2020.
 10. Papakostas YG, Daras MD. Placebos, placebo effect, and the response to the healing situation: The evolution of a concept. *Epilepsia*; 2001.
 11. Miller FG, Colloca L, Kaptchuk TJ. The placebo effect: Illness and interpersonal healing. *Perspectives in Biology and Medicine*; 2009.
 12. Wang Y, et al. Remdesivir in adults with severe COVID-19: A randomised, double-blind, placebo-controlled, multicentre trial. *Lancet*. 2020;395(10236):1569–1578.

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