



Maximizing Drug Effect & Reducing Pain by Placebo Drug Therapy by Diminishing and Ending Use of Painkillers/ Anaesthesia in Chronic Painful Disorders

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Review Article

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ABSTRACT

The placebo effect has shown prominent results with scientific evidence. It is the methodology of giving placebos that raises questions. There is limited investigation/research on the placebo pain-relieving effects. As the ethical concerns have contended. Many medical service providers use placebo habitually and patients are accepting these interventions. The positive patient-clinician outlook is very essential to develop a clinically meaningful placebo effect in chronic pain patients. For clinical use of placebo, it is important to understand that placebo-based clinical trials yield ethical possibilities and boundaries. Since the placebo effect contributes to active responses, it is possible to enhance the positive placebo effect. Placebo is psycho-neurobiological responses capable of modulating pain and producing variable changes of the different neurobiological bodies at emotive and analytic levels. This development can be achieved by different contextual factors (CFs) presented in the therapeutic encounter between patient and healthcare provider, such as healing rituals and signs. The CFs directly impact the quality of the therapeutic outcome. When we

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say chronic pain, we know the patient is suffering from some condition for a long period of time. In this scenario, there are high chances of a patient taking some pain management medication. Most chronic pain conditions such as arthritis, osteoarthritis, IBS, fibromyalgia, etc. cannot be cured. Pain with time increases as the patient gains tolerance to the medication therefore the doses of the medication are increased due to no effectivity of the drug is changed. This continues lifelong, due to these heavy pain medications given with the pain causative condition medication causes various negative effects on the body. In Clinical psychology placebo, drug therapy can be very helpful in depression, anxiety disorders, mood disorders, psychotic disorders, etc. Every year, we learn new data about the clinical application of the placebo effect.

Keywords: Placebo effect; pain; ethical; ritual; patient-clinician; contextual factor.

1. INTRODUCTION

In India 180 million Indians are suffering from ' ' ARTHRITIS '. 80% of urban Indians are vitamin D deficient which makes them prone to bone diseases. 95% population in India are taking Non-steroidal anti-inflammatory drugs (NSAIDs). 90% headache with no underlying medical cause. India is the second-largest knee 'OSTEOARTHRITIS' suffers in the world, etc [1].

Considering various facts from the above survey, most of our population is suffering from chronic pain disorders. Currently, most of the population is dependent on NSAIDs and other categories of painkillers for pain management. Most of these chemicals/medications are hazardous for the body. Prolong use or addiction to these painkillers leads to ADR (Adverse Drug Reaction) [2]. These NSAIDs, as well as other types of medicines, have severe negative effects, including kidney and liver damage, as well as high blood pressure. This can be very dangerous for patients suffering from painful disorders. Because the patient is already on medicine for those specific conditions, and to manage pain, these medications are administered in such instances, the patient may develop additional issues connected to kidney, liver, and blood pressure, among other things [3]. So, considering all these situations a therapy can be developed using placebo therapeutics. This therapy can include a placebo pill triggering psychological placebo effect and pavlovian conditioning (In pavlovian conditioning the scientists experiment on a dog and its food eating habit by ringing the bell while giving food to the dog. He continued this for sometime later he observed that whenever the bell rings dog starts salivation without food) likewise when a patient is on painkillers we can add exotic-looking sugar pills or use some placebo threats so the patient feels he is treated and develops a psychological placebo effect [4]. Combining all these factors a

'PLACEBO DRUG THERAPY can be developed. This therapy will not only help reduce pain but will also help maximize the drug effect on the patient for that particular disorder the patient is suffering from. This therapy can also help patients to develop a positive psychological effect. Patients with defective genetic disorders, age-related disorders, or any chronic pain disorder can be benefitted from this therapy as this will help reduce pain positively and without exposing the patient to continuous drug use.

1.1 Objective

The purpose of this review article is to look for a better way to manage the pain of the patient without exposing the patient to harmful chemicals which can cause serious medical issues. So, the placebo drug therapy can be developed for patients suffering from chronic pain disorders and to reduce pain without any chemical exposure. Most of these painkillers are addictive. This therapy can be the best alternative method in the future for pain management with negligible side effects. It will help us to determine various essential factors that will help us to trigger the psychological placebo effect. This is mostly based on the patient-clinician relationship to maximize the placebo drug effect. As the majority of the patient is a layman. When they are admitted to the hospital they believe in white coats the clinicians for their betterment. They trust clinicians for the treatment. Therefore clinicians can build a good relationship with a patient using this trust and belief for the betterment of the patient [5]. Therefore the a high possibility of achieving a psychological placebo effect.

2. METHODOLOGY

There are various possibilities and a lot of unknown facts in placebo research. Clinical trials can be conducted using different therapeutic

methods. The main obstacle in the placebo trials is ethics and deception. The placebo shows more positive results if given deceptively. Many clinicians practice and prescribe placebos in daily life. Previously placebo effect has been used against some disorders like irritable bowel syndrome (IBS). In which patients were given lidocaine to reduce pain while rectal examination. Placebo trials were conducted it significantly reduced pain levels compared to NH-Group [6]. Such trials can be conducted with various chronic painful disorders. Different facts and parameters of placebo therapeutic uses can be determined. The fact that the placebo effect exists can be used in medical practice. More research and scientific study are required. The major barrier is due to ethical issues about falsely treating patients. However, fraudulently administering placebo threats is also essential for inducing the placebo effect [7]. So, it's challenging to carry out trials and researches keeping the ethical boundaries in sight. A rational way must be found to do trials.

3. DEVELOPING A PLACEBO THERAPY

Nowadays pain management drugs are used in abundance without any prescription. It's a serious crisis, most of the pain management drugs are addictive and show side effects after prolonged use. Many patients with chronic pain disorders have no option but to be dependent on painkillers as some disorders like Irritable Bowel Disease (IBS), arthritis cannot be cured. Patients acquire tolerance to various pain drugs over time. The patient's dosage is raised, which increases the odds of developing an adverse response over time. The patient after a point doesn't respond well to the drugs and complaints of their inefficiency. So, the patient is then subjected to a higher class of pain killers [8]. A placebo therapy can be developed by a combination of pain killers and placebos therapeutic. This needs to be given deceptively with taking patient in trust and exaggerating the benefits of this placebo drug therapy [7]. With time the dose of pain killers can be reduced while increasing the placebo therapeutics. We need to look at the outcomes to see how far the placebo may go, and whether painkillers can be totally substituted by placebo therapy in chronic pain condition patients? Or can the placebo effect be induced only in certain diseases? All these questions need to answer. There is a need for extensive research in this field. Placebo therapy can be a boon to many people. As we know a majority of the population is suffering from some

pain-related issues. Many of them are addicts to these drugs. In severe painful disorders, most of the diseases cannot be cured. Patients have to be on continuous medication to manage this disorder. Along with this, the patient has been on heavy pain medication to manage severe pain. If this therapy helps induce positive placebo effects in severe pain patients it will be a great achievement. The placebo effect till today is not well understood, as it involves the complex neurobiological reaction that includes the increase in feel-good neurotransmitters, like endorphins and dopamine, to greater activity in certain brain regions [9]. Administering the placebo-like normal drugs will not show effects. The proper ritual is required with some exotic-looking drugs or therapeutics to administer to the patient. So, the patient feels psychologically that he is been treated and will self-induce the effect.

To understand how the placebo work we can compare it with the Pavlovian conditioning or experiment. In this experiment, the Russian physiologist Ivan Pavlov experimented on his dog. In normal conditions whenever the dog used to see the food the salivation occurred. Pavlov then started ringing a bell when he use to feed the dog this continued for a period of time. Then after some time, he observed that whenever he rang the bell the dog started salivation even no food was given.

From a few types of research carried out on specific disorders or conditions which have chronic pain has shown a positive effect for example 66 patients suffering from migraine headaches a randomized trial was performed. They were classified into three groups "rizatriptan" group, the "placebo" group, or the "rizatriptan or placebo" group. Surprisingly the mislabelled placebo drug as rizatriptan reduced headache significantly [6].

Experimental research was carried out on 48 patients with chronic back pain to improve the patient's physical activity. They were given a placebo tincture combined with the instruction that it is "highly effective opioids". There was a huge difference in the pain reduction. As average pain was 5.0 on the pain scale and after the placebo tincture it was reduced to 2.5 (0= no pain, 10= worst pain) [6].

A brief understanding of psychology and neurobiological reaction is necessary, every clinician knows that the placebo effect is real and works. How does it work? We still are unable to answer this question due to limited researches.

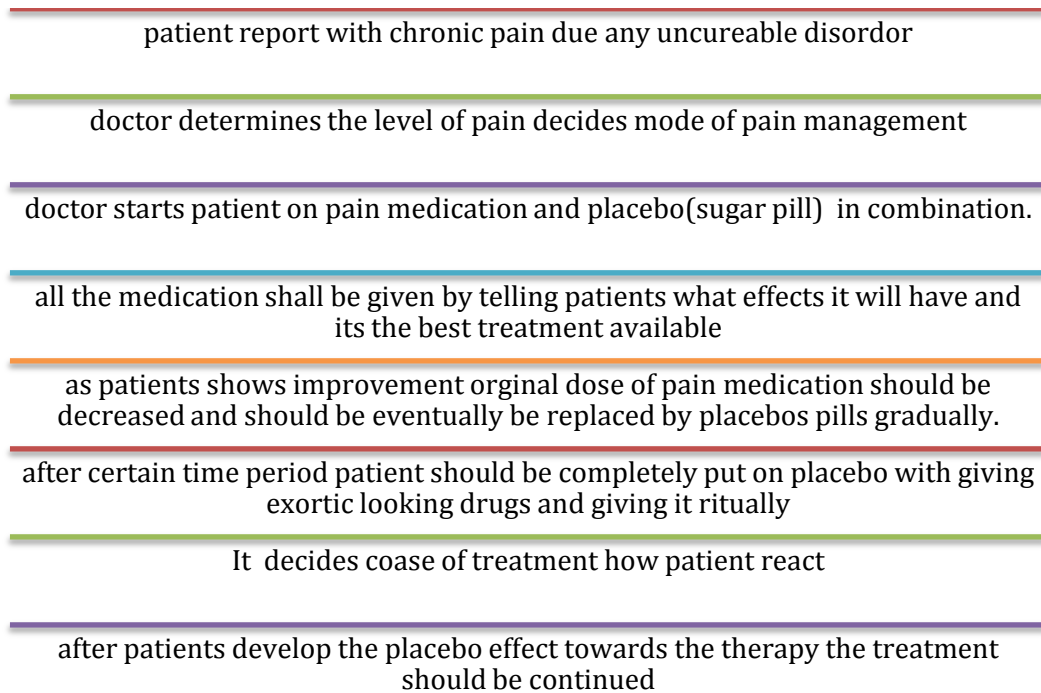


Fig. 1. Therapy's adaptation

Due to ethical limitations, intensive research in the field cannot be conducted. There is a billion-dollar pharmaceutical business flourishing on these pain medications as these are addictive and easily available in developing countries [10]. This is like an endemic. People who truly are in pain can be helped with this therapy without exposing them to chemicals. This therapy's adaptation might be extremely valuable to the general public.

4. OBSTACLES IN PLACEBO RESEARCH AND TRIALS

Placebo research has not much progressed because of the ethical boundaries. As the placebos have to be administered deceptively by building a trustful patient-clinician relationship [9-11]. Many factors have to be considered in placebo research as physical as well as psychological. The doctor must create a mirage in the mind of the patient regarding the placebo and how it will impact him. A patient's positive outlook is also very much important. All these factors are needed to be considered to induce the psychological effect [12]. All these things are crucial as every patient is different and has different levels of pain. A standard guideline or understanding of the neurobiological reaction and certain psychological checkpoints is essential. Suppose a group of people is suffering

from the same disorder and have a different level of pain tolerance when placebo therapy is given to them every patient will have different levels of positive response. This can be challenging to determine what amount of dose or therapeutic will trigger the positive response. If the trials are conducted by informing the patient about the placebo therapy the results may not be the same. The ethical design of these trials and research is also a challenge [13]. However, this trial and study require an hour because statistics suggest that the bulk of the population is in discomfort. If these placebo drug therapies are ethically approved and researched, brought in daily practice can help the majority of people. Still today and every year we learn and discover new facts about the human body and we will keep discovering the same in the future as well. But due to ethical reasons the development and research in the field are not progressing. The world with information and knowledge about this field will be completely different because it has the potential of changing the way pain is perceived, studied, and managed. We know the placebo effect is real and is effective but the real challenge is practically and evidence proving the effect exists with scientific evidence with biological reactions. The response caused during the placebo effect that lessens pain is unclear, but if identified, it can be useful [14]. Certain techniques or therapeutics can be studied or

researched so a meaningful positive placebo effect can be effectively induced. For this human experiments are required which is highly ethical. As a result, it is a significant impediment to the development of this therapy. Various animal tests, such as Pavlovian training, can be used to relate to or understand how this phenomenon works. An ethical methodology is essential which does not violate any human right such method must be found and explored to learn about placebo and its medical use.

5. THE WORLD WITH PLACEBO DRUG THERAPY

After ethical approval and development of this therapy. It will benefit millions of people from harmful exposure and abuse of these pain management medications. The placebo drug therapy will make people more tolerant of pain. To induce these placebo effects in the patient both physically and psychologically is a skill. Clinicians will require more experience and training to induce these effects. All pain management is done fraudulently for the patient's benefit. Researchers also found that the placebo effect can ease pain, fatigue, or depression by using non-active treatment. Long-term use of pain medication has various side effects such as nausea, drowsiness, dizziness, itching or sweating, depression, tolerance as with time body needs more drugs to produce the same effect and eventually cause addiction [15]. Long-term use of certain NSAIDs leads to side effects including stomach problems, kidney problems, high blood pressure, fluid retention, and allergic reactions [16-21]. All of these side-effects or Adverse Drug Reactions (ADRs) can be prevented by placebo therapy. Many disorders cannot be cured and have a high amount of pain. The patient is already on meds to control the disease, and different medications are provided for pain management. So such conditions can be identified and researched in which placebo drug therapy can work. This will not expose the patients to more chemicals and help with giving the same pain-relieving effects.

6. DISCUSSION

As a conceivable objective, placebo treatment can be created. As the researchers are still discovering and investigating and learning new facts about how placebos work. Placebo can be given combined with pain management drugs and then consecutively decreasing its dose deceptively. The patient is unaware of these

developments and believes he is receiving genuine pain medicine, which has a psychological effect. Extensive researches are needed to be done in which conditions the effect is possible? What are its enhancing effects? Does the placebo effect is positive for all pain disorders or only works in some? How specifically or to what degree the patient will respond? All these questions need to be answered. There is a need for extensive research in this field. Doctors around the world use placebos for clinical purposes due to their effects on a range of illnesses. A Danish study Trusted Source in 2008 found that 48 percent of doctors had prescribed placebos at least 10 times in the past year. Most often, these placebos were antibiotics for viral illnesses and vitamins for fatigue. A similar study of doctors in Israel found that 60 percent of Trusted Source prescribed placebos to deter patients who wanted unjustified medication, or if a patient "needed calming" [9]. So, for the benefit of the patient, the doctor prescribed placebos, which is beneficial. Ethical approval is important so, more people can be benefited if these placebo drugs and therapy are approved.

7. CONCLUSION

In therapeutic practice, the placebo effect may be quite beneficial. Many patients come to the clinic with complaints of fatigue or pain in various regions like head, back, legs, etc. without any underlying pathology Such patients can be helped with placebo drug therapies without exposing them to unwanted drugs. Wellness can be aroused in patients in the context of a good patient-clinician relationship.

It is ideal that all the treatments should be specific in action and used only if necessary. But unfortunately, the placebo works well deceptively and has no specific action or yet to be discovered. The doctor should not leave the patient in uncertainty about the treatment effects. Even if the doctor is not sure about the effects but the patient must be told this is the best treatment to manage his pain. The doctor must assist the patient in identifying the good changes that are taking place in the patient. The patient must be instilled with the promise of progress and well-being. The patient should be informed about what to expect from the treatment and how it will affect them.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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