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The Placebo Effect and Pharmaceutical Drugs

Psychobiology has developed into an intricate art, one that must balance body and mind into homeostasis. Clinical physicians must merge with metaphysical elements in order to discover a panacea for patients with mental, not physical problems. The disturbing note concerning these ailments beyond a physical scope is their link to creation and exacerbation of real physical responses. There must be a creation of some medicine or therapy to actively treat patients for ailment physicians cannot touch. Documented as early as the eighteenth century (Horgan, 1999), the Placebo Effect may be a proper response to growing ailments.

In the following historical background, case research, and sample field research, I have undertaken the tiresome task of solving a modern medical problem. How can the medical field actively treat mental ailments without creating a swarm of artificial medications or physical damage? The question has been presented many times, but rarely with the phrase “without artificial medications”. “The body’s own natural chemistry is the most reliable” (Dement, 1999) yet many times society chooses to “sell our souls to pharmaceutical firms” (Udsin and Horgan, 1999) .In my research and experimentation I have attempted to initiate the placebo affect in answer to effectively answer this question to fit contemporary standards. My basic hypothesis is as follows:

The Placebo Affect can be used on clinically treatable problems in order to alleviate untreated mental illness numbers and “hordes of prescribed medicines” (Novitt-Moreno, 1995),

Thus a proper prediction would yield as follows: If the Placebo Effect can be used to demonstrate reduction of stress levels and increased sleep, then it has the possibility of being an effective device for mental health.

The first step is to simply look back on medical history and precedents to unearth practices that had merit but lacked full viability. Looking into perspectives of history, there has been a “dearth of new medicine” (Fanu, 1990) yet a lack in the total number of ailments cured or that can be actively treated without hazardous side effects. A Placebo by benign definition is simply a neutral or unbiased substance that alters behavior through suggestion (Merril-Webster, 2001). In reference to this it is important to look at the very first underpinnings of medical science and the Placebos emergence and fall as a “wonder drug”.

The existence of Placebos as established forms of medicine first came into light during the mid nineteenth century in America and as early as the seventeenth century Enlightenment in Europe. One attribute that can be seen in the early gains of placebos is “its use by the economically poor and emotionally desperate” that could not afford any proper form of treatment. The irony behind this was that “proper” treatments of mental ailments were considered to be blood letting and self-mutilation to let out problems, these problems eventually killed the properly treated (Horgan). Thus those that survived had the verbal wooing of Placebos to make progress and eventually the Placebo Effect became a tool of the affluent.

Moving on a domestic level, turn-of-the-century America took a great part in development of behavior recognition and Placebos. Before the advent of Prozac and other mental illness drugs, placebos formed the centerpiece of medical research and treatment “in supplementation of electroshock therapy” (Carter, 1998). With the rise of avant-garde culture and a tortured World War One disillusioned generation, experimentation with drugs and psychobiology suprisingly led to the replacement of Placebos despite their use being “existentialist in nature” (Worchel, 1992). This wave of medical narcotics would last throughout a majority of the twentieth century, with morphine and lithium marking the AMA (American Medical Association), with mania and blood.

As doctors clamored for cures for anything they could lay claim, they uncovered a number of effective but mind-altering drugs with serious consequences which have all but been removed from medical practice today. Lithium became the miracle of the century, claims of mental rebirth and advertised affects that Placebos could never produce led to the claim that it was “the most consumed medication in human

history”(Dement, 1999). Ironically “66 percent of those given lithium had no outbreaks of mania” but over a period of five years, testers showed signs of “extreme and dangerous manicdepression” (Horgan, 1999). With this the AMA blocked the use of lithium in most cases and restricted its overall use to the brink of non-existence, until the emergence of Prozac.

Concluding the historical retrospect is the re-birth of new drugs, Pfizer’s Prozac. “Relaxation techniques, anger and stress management techniques, and biofeedback have taken the backseat to the release of multiple new mental illness drugs “following the wave led by Prozac (Mann, 1999) Prozac helps to relax and stimulate the frontal lobe of the brain and a fragment of the amygdala by “breaking a synapses in the brain that occur with dopamine” (Novitt-Moreno, 1995). This seemingly amazing scientific breakthrough was matched with the greatest biologists and psychiatric evaluators in the world, “but sometimes time, money, and faith are not enough to achieve even reasonable scientific goals” (Horgan, 1999). Prozac has shown many failures including high cost “and the same mental long-term disorders caused by lithium ” showing that there truly is a “cycle of exaggerated results” (Horgan 1999)

Using the historical background as a relief map of precedents leading up to the needing of a reemerging placebo medication, a proper procedure must be followed:

First comes the researching of historical triumphs and failures to guide the correct path as to how to conquer the goal. Second, individual case studies of four or five persons under pharmaceutical medication for mental wellness and a small documentation of the struggles he or she has gone through in battling mental illness. Finally general data collection obtained through screening a specific reliable demographic. Testing the demographic provides for a complex plan:

1) Survey a group of persons who have an age range of less than four years

2) Use persons in a similar living environment, accounting for career and school factors

3) Purchase sugar tablets that are plain white and contain no dyes

4) Using a sterile environment and latex gloves, place one single pill in plastic bag

5) Place following survey in same bag and close

Age: Gender: Male or Female

Occupation: Hours Worked Per Week:

On a 1-10 scale, 1 being extremely relaxes and 10 being extremely stressed, where do you fall?

1 2 3 4 5 6 7 8 9 10

What is your average yearly income?

How many persons live with you?

Do you attend school? Y? N? If so how many hours per week?

Are you currently under any medication, if so what?

What is your highest level of education? Y? N?

How many hours of sleep do you get on an average night? Y? N?

Do you feel you get enough sleep? Y? N?

Do you feel that biotechnology will hurt or help medicine? HURT HELP

Why?

END OF PART ONE

START OF PART TWO

Did You Notice Any Change In Stress Level?

On The Previous Scale Used, What Stress Level Did You Move To?

What other effects, if any, could you notice or feel after taking the test?

(List as many or few as applicable)

# X\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature

I am a willing participant in this Advanced Placement Biology project run by Keldon Clegg. I understand that the substance I will be taking contains any one or all of the following: barley, ginseng, and wheat. I also understand that this information is confidential and signatures are required for a safety device and names will be withheld when reviewing data. By signing this form I acknowledge the above and will not taint any results for self-benefit.

6) Prepare to run test on demographic above ON THE SAME DAY!

7) Suggest that this is an organic pill known to reduce stress, blood pressure, and relax persons taking it to the participants.

8) Collect data from at least forty persons of one hundred given pill (Many will forget or choose not to ingest a given substance.

7) Compare data for discrepancies, look for any change in sleep behavior in one particular group who falls under a certain age level, income, or general type of persons.

8) Compare results to those given in historical and case studies.

Following such procedures, I created approximately ninety-seven surveys and about forty-eight responses, each response from a demographic of sixteen to eighteen, all juniors and seniors in public secondary school. Legal waivers along with signatures by parents were required for all persons participating under the age of eighteen and each person had the same idea suggested to them. In the end results were impressive, but subject to heavy variable differentiation. In a percentage breakdown, nearly 33% of all participants had some downward shift in stress level coupled with relaxation. And only 9% of all participants noticed no change at all, or did not show change on the survey and only two participants had negative biofeedback, claiming to have suffered less sleep and more stress.

Moving to age variables, only a slight range was given, but strikingly different results could be noticed. Those who were older were more likely to respond positively to the test, while the youngest sixteen-year-old data had little confidence in the Placebo. Such could be correlated to the fact that most disbelieves were sophomores and juniors. This could be attributed to a lack of knowledge in medicine and disbelief in biotechnology as indicated on the same form. Regardless of age, overall stress levels were varied person to person, showing a wonderfully diverse bellwether poll.

The gender gap and income margins were not present in the data examination. Only one more female than male responded positively to the stress and the two participants who showed negative effect were divided male and female respectively. Similar results were yielded under job experience and hours worked as far as stress relief was concerned. Those who had a high-income level matched or paralleled those who generated no yearly revenue and had a job factor adding stress to their lives. Hours worked per week did not have a direct adverse affect on stress level changes, thus stress changed comes at a fixed rate.

Hitting a key chord is that of the affect of biotechnology and the reasoning behind it. Only the two that adversely responded to the Placebo Effect claimed that biotechnology could hurt more than it could help society. This draws an interesting idea that those who have faith and gullibility in medicinal breakthroughs would be more likely to positively respond to the test. Repeated informational releases or reiteration by myself could have yielded higher benefits if there is a propaganda “bandwagon” effect associated with Placebos.

An astonishing side result was generated from the same seemingly neutral nature of the biotechnology clause. Many of the students were on more than one prescribed medication, twenty-six total, and even more were getting fewer than seven hours of sleep, forty-two total, the AMA minimum amount for a teenager (Dement, 1999). Students have turned into “the overmedicated panicky population” (Horgan, 1999) that many had feared emerging. Even with such heavily medicated subjects who had no sleep, the Placebo effect still took place. The power of suggestion could have quite possibly worked with the disillusionment of current drugs to create a desire for a new organic drug that could cure an ailment without even having any medical effect.

Finally the changes in stress level from initial day one to day two with the placebo. No stress level changed by more than three levels, but on that same topic, any shift greater than that would have been exaggerated and deviated from the norm. The norm could be seen “as an increase above 20% of behavioral patterns” (Carter, 1998). Those whose levels shifted more than one level outnumbered those who only shifted one level in a two-to-one ratio. Those who claimed no change remained at the same levels while the two adversely affected moved up one and two levels of stress respectively. This leads to a fatal problem in the experiment, multiple variables and lack of cohesive statistical analysis that will be addressed in the conclusion.

The second data phase comes through three narratives case evaluations of the Placebo Effect on curing mental wellness in clinical trials as documented by UCLA Medical Center and the AMA. Each individual was given dual treatment with Placebos and pharmaceutical medication in the following order: treating ADHD, schizophrenia, and Chronic Migraines.

Dr. Anne D. Novitt-Moreno who documented the effects of Ridalin versus a placebo supported the first study of behavioral modification in a double-blind experiment. “an area of the upper auditory cortex has been found to be hypoactive” in children afflicted with Attention Deficit Disorder, and using a simple barley and grain organic pill she suggested an alternative treatment to Ridalin. Using a group of clients she had a co-advisor decide who would receive legitimate treatment and who would be granted a placebo. She herself did not know what patients had which, thus making the experiment double blind. Basing her ideas on the “gullibility of youth” and “power of faith” Dr. Novitt-Moreno received remarkable results with the exception of only those who suffered “damage to parietal cortex” (Novitt-Moreno, 1995). Thus

The Moreno study was supplemented by a philosophical look into the mind by Rita Carter. She presented herself as a doctor of “Cartesian dualism”, a philosophy which present mind and body as two separate yet complementary parts of a human being. “Multifaceted consciousness that normal healthy humans enjoy may be created by the activity of relatively few brain parts” but “consciousness emerges from the cortex itself” (Carter, 1998). This deep study gives a narrow road of hope that could be used to show a direct relationship between spiritual acceptance of a placebo and progressive medicine’s effect.

UCLA conducted its final study on a thirteen-year-old girl who is revealed under the name K.L.Q., her initials. She complained of severe migraines and a MIR confirmed fears of possible build up that could lead to clots in the brain, a stroke before the age of twenty. Her physician gave her parents the option of placing her on an experimental program involving drilling a small hole in the back of the patient’s head, with half receiving an experimental surgery and half simply getting a scar. KLQ did not receive the surgery but her parents claimed “miraculous results”. Dangerous but rewarding the surgical Placebo triumphed (Horgan, 1999).

Concluding my research and development of the Placebo Effect and mental wellness I believe that in a larger laboratory environment with the cooperation of clinical physicians. The experimentation itself has a fatal flaw of multivariable that I myself cannot control. Homework levels, teenage saga, and general household problems could contribute to the high margin of error in my research. But the overwhelming background research and case studies were included as backing to show that my data was on the correct path. My hypothesis is still wavering as is my prediction. Trusting the results I received could be a hasty assumption since “Self-delusion is by its very nature difficult to guard against-almost impossible when fueled by unbridled ambition” (Valenstein).

In many ways though the study was a success. I was able to generate results after two failed trial runs where the demographics were not consistent. They key appears to be isolation of as many variables as possible, and a convincing show that Placebos can be an effective tool. Stress levels were reduced on a majority of the persons surveyed and a simple path was laid out for future research. 10% of Americans are afflicted with depression and 15% with anxiety and 48% of America will be afflicted with a mental illness(Novitt-Moreno, 1995), with this in hand a large number of persons could benefit greatly from further research. Quite possibly the link between wellness and sleep could be further established using sleep as a way to affect mental health by using the Placebo Effect to change sleep patterns.

In the future I hope that I can pursue further research as part of the biological research group at University of California Santa Cruz and I plan to send letters to Pfizer concerning my research. Fouly tested medications and the rise of an inexpensive Placebo Effect could shake pharmaceutical industries, a task that will take many and benefit all. Until such firms allow extensive testing of their products, we will watch the monopolization of mental illness by overpriced drug firms.

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