

## **Perceptions of placebo therapy among health practitioners in Jazan region of Saudi Arabia.**

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### **Abstract:**

**Background:** Placebo therapy has always been a subject of controversy in the field of medicine. Some choose to admit it as "fake, irresponsible medicine" while others advocate its effectiveness in various clinical settings. With the advent of the recent concept of mind-body medicine, placebo has entered from fringe to mainstream therapeutics. Some clinicians use it for its actual positive outcomes while others use it merely to buy time until definitive diagnosis or even as a pacifier for patients.

**Objective:** The present study was carried out to observe the perceptions about placebo therapy among health practitioners in Jazan region of Saudi Arabia

**Methodology:** Data was analyzed through statistical analysis of retrospective questionnaires addressing various issues on placebo therapy, including types of placebo used in various clinical settings, mechanism of placebo action, ethics of use and openness with patients etc.

**Results:** The study elucidated that the perceptions regarding placebo therapy are subjective and variable within and between institutions ranging from firm belief in its positive effects and efficacy; to neutral attitudes among some, to strong opposition for it among still others.

**Conclusion:** More research is needed to ethically define the boundary between explicit fraudulence and marginalized evidence based therapeutic deception to effectively achieve the goal of positive health outcomes in patients.

**Key words:** Placebo therapy, Saudi Arabia

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## Introduction

Finding its way into medicine, placebo has come to mean any inert substance given to a patient from which a beneficial effect might be achieved, but in the absence of a known specific effect on the condition to be treated. In the early history of medicine, physicians, having few really effective medicines, found that if they gave their patients what we now call "sugar pills," along with hope and encouragement, sometimes these patients would recover from their illnesses. In medical and psychological research, placebos are commonly used to evaluate the effectiveness of new treatments.

*How does placebo fit into the pattern of biology?* Placebos act through a classical conditioning of the brain. A "sham" intervention may cause the patient to firmly believe that the treatment will change his or her condition; and this belief may produce a subjective perception of well being; resulting in a positive therapeutic effect; the so called "positive mind-body kinesis". The placebo effect is a pervasive phenomenon<sup>[7]</sup> which elucidates the importance of perception, imagery and the brain's role in physical health.

The present study was undertaken during the year 2009 to evaluate the perceptions (knowledge and attitude) regarding placebo therapy among medical practitioners in Jazan region of Saudi Arabia.

## Materials and Methods

Study design - Retrospective questionnaire

### Study Population and Area

The study targeted 90 doctors, (67 male, 23 female; aged 25-59 yrs; mean age 34.5 yrs) including specialists, resident doctors and general practitioners (GPs) working in various health care facilities and public health institutions of Jazan region (including King Fahad central hospital, Jazan general hospital and local dispensaries). They were divided into three groups of 30 each, depending upon their institutional affiliation as GP, resident or specialist.

### Data Collection

Data was collected through structured interview using questionnaires; (likert scale and open ended questions) covering a range of topics on placebo use like reasons for prescribing, types of substances used, action

mechanism, ethics of placebo therapy, openness with patients etc. A minimum of two visits were made to each of the health institutions for collecting data.

### Pre-test of the questionnaire

A pilot survey was conducted to test for the validity and consistency of the questionnaire. Then, the questions were revised and adjusted before the actual start.

### Statistical Analysis-

The awareness level among medical practitioners; their knowledge and attitude were statistically evaluated using Statistical Package for Social Science (SPSS 17). The data entry and editing phase began immediately after fieldwork. The analysis comprised of frequency distributions, cross tabulations, Chi square test, Odds ratio and student's t. test. A p value less than or equal to 0.05 was considered significant.

## Results

The response rate was 100%; that is, all 90 practitioners completed and returned the questionnaires.

The common placebo modalities used in clinical setting were sterile lotions (petroleum jelly), normal saline, distilled water injections and lactose.

Regarding the effectiveness of placebo in achieving positive therapeutic response; the three groups did not differ statistically. ( $p=0.21$ ). 62 respondents (68.8%) believed that, it was actually worked to a lesser or greater degree in various situations.

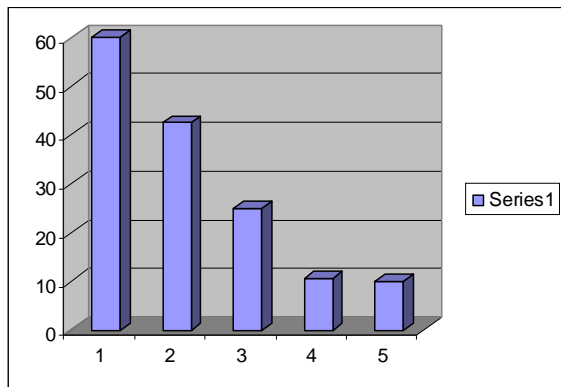
The reasons for placebo prescription differed according to various situations as shown in figure 1. It was most commonly prescribed for non specific symptoms (60%). It was used to pacify or mollify a patient in 42.5%, as a means of pain relief in 25%, as an alternative to medicine (when prescribing medication was unsuitable) in 10.6%, or, to buy time (before starting actual therapy; or, between two doses of medicine) in 10%.

Figure 2 depicts the practitioner's knowledge regarding the mechanism of placebo action. 72.22% (65 out of 90) believed a psychological phenomenon underlying the placebo effect. The opinion of both residents and specialists differed statistically from the views of general practitioners. ( $p<0.05$ )

The communication strategy used by doctors in explaining about the placebo to their patients varied considerably as demonstrated by figure 3. 80.76 % described placebo as "actual medicine" to the patients. In this regard, the resident doctors numbered higher than GP's. ( $p < .05$ ). A few; 19.2% made no comments about the placebo. Interestingly, none; (0%) were truthful about placebo; in telling the patients what it really was. Figure 4 demonstrates that, the views of the health practitioners on the ethics or appropriateness of placebo use were subjective.

58% felt that, placebo should be used only in select conditions, by experienced hands in a measured and therapeutically justified manner. 29% opinioned that, placebo should be used for research in the field of psychology or medicine. 11% said that, placebo can be tried in most medical conditions without prior experience. Only 2% strictly stated that placebo should never be used.

**Figure 1**  
The reasons for placebo prescription



- 1- Non specific symptoms
- 2- Pacify or mollify a patient
- 3- A means of pain relief
- 4- Alternative to medicine
- 5- To buy time

**Figure 2**  
Knowledge regarding the mechanism of placebo action

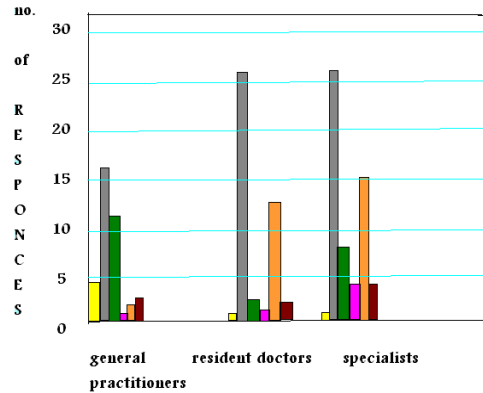
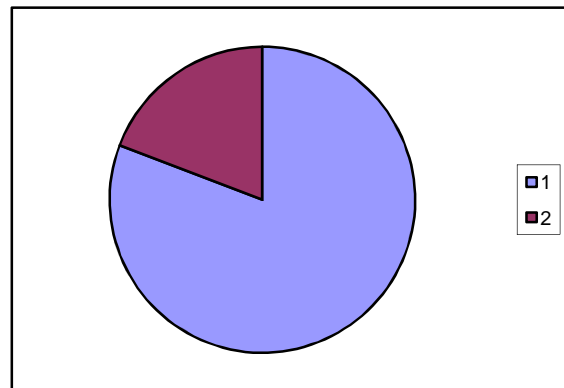


fig 2 Knowledge regarding the mechanism of action of placebo among three groups

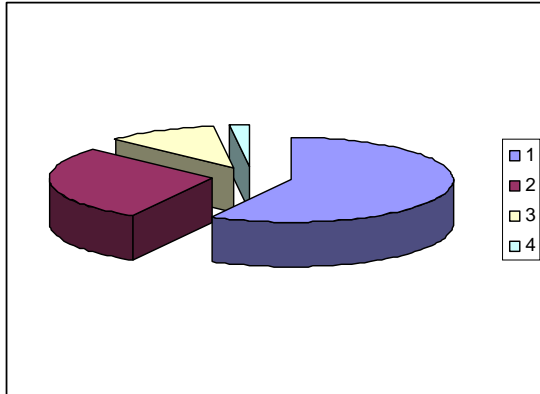
- biochemical ■
- psychological ■
- natural mechanism ■
- positive kinesis/energy ■
- mysterious/unexplained ■
- no comments ■

**Figure 3**  
The communication strategy used by doctors



- 1- 80.76 %- actual medicine.
- 2- 19.2%- no comments

**Figure 4**  
**Ethics or appropriateness of placebo use**



- 1- used in select medical conditions
- 2- used for research
- 3- used in most medical conditions
- 4- never be used

## Discussion

Mind has a profound effect on the body <sup>[1]</sup> Biotechnology has established that the "brain-body-neuro-endocrine-immune-complex" is all part of one integrated system and placebo therapy acts as a means of harvesting this mind-body connection to achieve a perceived or actual improvement, called "the placebo effect". <sup>[2]</sup> In the medical field, placebo includes controlled and measured deception by usage of a large assortment of unrelated modalities; like sterile creams (petroleum jelly), olive oil, corn oil, sugar pills, chalk dust, lactose, saline, distilled water etc. Medical devices such as sham ultrasound, sham surgery and sham acupuncture have all exhibited placebo effects. <sup>[3, 4, 5, 6]</sup>

This study demonstrated that, medical practitioners in Jazan region of Saudi Arabia have not remained untouched by the "placebo trend"; this finding coincides with other studies. <sup>[7, 8, 9, 10, 11]</sup> A very low number (only 2%) of the doctors involved in the study felt that placebo should be prohibited. This generally tolerant attitude for placebo was also observed among Chicago academic physicians where only a small number; 12% wanted the placebo to be "categorically prohibited" in routine medical practice. <sup>[10]</sup>

Studies show that placebo practice among health practitioners varies widely within and between institutions. It has been reported as ranging from 45%. <sup>[10]</sup> to 55% <sup>[9]</sup> to 60% <sup>[8]</sup> to 74%. <sup>[12]</sup>

Previous researchers have reported general practitioners as the highest placebo prescribers; the underlying reason being knowledge deficits, limited clinical expertise and diagnostic skills of GP's. <sup>[7]</sup> Many respondents in this study stated the underlying reason for placebo prescription being the pressure of demanding patients and placebo acting as an "effective pacifier"; an opinion which is shared by others. <sup>[13]</sup> This held especially true for a majority of expatriate doctors who work under constant pressure of their job stability and avoid undue hassles from dissatisfied patients.

68.8% of the respondents in this study opined that placebo was occasionally or generally effective in most clinical settings. This finding is concurrent with other reports. <sup>[8, 10, 11]</sup>

Studies demonstrate a general preferential trend of "impure" or active substances being used as placebo over "pure" or inert substances. <sup>[9, 11, 14, 15]</sup> This practice is an alarming sign, since the indiscriminate and injudicious use of pharmacologically active substances in the name of placebo is a fundamental contradiction of the term itself. It can also be a potential health hazard. <sup>[16]</sup>

Majority of the doctors (80.76%) in our study described placebo as "medicine" to their patients which is higher than the communication strategy used by Swiss and American physicians; where 64-68% labeled placebo as medicine to the patients. <sup>[9, 11]</sup> Interestingly, none of the practitioners explicitly admitted the placebo "to be what it was" to the patients. This lack of "openness" was also observed in other studies. <sup>[9, 17]</sup> The most common underlying reason given by the respondents of this study was the fear for loss of patient faith and compliance with the doctor.

The mechanism of placebo action was attributed to a psychological (mind-body) phenomenon by a significant majority (72.22%) of the doctors in our study. This opinion is shared by many others in similar studies. <sup>[8, 10]</sup>

The frequency of placebo usage as a diagnostic tool has been reported in literature.

[8, 17] Such practices, however, can be hazardous if conducted in an unscrupulous and naïve manner.

The limitations of this study were a small sample size, recall bias and possible under-reporting of placebo use by some doctors.

### Conclusion

The use of placebo is not confined to clinical trials but has extended to routine clinical practice as well. Medical practitioners in Jazan region of Saudi Arabia are not immune to placebo usage. The perceptions about placebo therapy differ within and between institutions. However, when placebo is used in clinical setting, the deception involved creates some degree of contradiction between the Hippocratic Oath and the honesty of the doctor-patient relationship. The opinion on ethics of placebo use is subjective and variable. More research is needed to establish a controlled therapeutic "placebo layout" for physicians. Striking the perfect balance between measured deception and evidence based healing is the key to optimal management of any medical condition.

### References

1. Oron Frenkel .A Phenomenology of the 'Placebo Effect'. Taking Meaning from the Mind to the Body. *J Med Philos* .2008; 33(1): 58-79
2. Gensini GF, Conti AA, Conti A."Past and present of what will please the lord: an updated history of the concept of placebo". *Minerva Med* .2005; 96 (2): 121-4.
3. Hashish I, Salmon P, Freeman R, Harvey W. "Reduction of post-operative swelling by a placebo effect". *Journal of Psychosomatic Research*.1988; 32(2): 197-205.
4. Cobb LA, Thomas GI, Dillard DH, Merendino KA, Bruce RA "An evaluation of internal-mammary-artery ligation by a double-blind technic". *The New England Journal of Medicine*. 1959; 260 (22): 1115-8.
5. Benson H, McCallie DP "Angina pectoris and the placebo effect." *The New England Journal of Medicine*.1979; 300 (25): 1424-9.
6. Kaptchuk TJ, Stason WB, Davis RB, et al."Sham device v inert pill: randomised controlled trial of two placebo treatments". *BMJ*. 2006; 332 (7538): 391-7.
7. Hrobjartsson A, Norup M. The use of placebo interventions in medical practice: A national questionnaire survey of Danish clinicians. *Eval Health Prof*. 2003; 26:153-65
8. Nitzan U, Lichtenberg P. Questionnaire survey on use of placebo. *BMJ*.2004;329:944-6
9. TilburtJC, Emanuel EJ, Kaptchuk TJ, Curlin FA, Miller FG. Prescribing "placebo treatments": Results of national survey of US internists and rheumatologists. *BMJ*.2008; 337:1097-100
10. Sherman R, Hickner J. Academic physicians use placebos in clinical practice and believe in the mind-body connection. *J Gen Intern Med*.2008; 23:7-10
11. Fässler M, Gnädinger M, Rosemann T, Biller-Andorno N. Use of placebo interventions among Swiss primary care providers.*BMC Health Serv Res*. 2009; 10(9):144.
12. Bernateck M, Karst M, Eberhard S, Vivell W, Fischer MJ, Stichtenoth DO Placebo therapy. Analysis of extent and expectations in a tertiary referral center.*Schmerz*. 2009; 23(1):47-53.
13. Malpas PJ .The use of placebos to mollify difficult patients: in their best interests? *N Z Med J*. 2009; 122(1299):71-2.
14. Bourne HR. Rational use of placebo. In: Melmon KL, Morrelli HF, editors. *Clinical pharmacology: Basic principles in therapeutics*. 2<sup>nd</sup> Ed. New York: MacMillan Publishing Co. Inc.;. 1978. 1052-62.
15. Fässler M, Meissner K, Schneider A, Linde K. Frequency and circumstances of placebo use in clinical practice--a systematic review of empirical studies *BMC Med*. 2010; 23:8-15.
16. Agarwal S. The placebo therapy. *Indian J Med Sci* .2009.;63(11)519
17. Kartik N Shah, Dhaval J Panchal, Bhavesh M Vyas, Varsha J Patel. Use of placebo: Knowledge, attitude and practice among medical practitioners *Indian journal of medical sciences*. 2009; 63 (10): 472-73

