

# THE RELATIONSHIP BETWEEN PRICE STRATEGY AND PLACEBO EFFECT

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# **THE RELATIONSHIP BETWEEN PRICE STRATEGY AND PLACEBO EFFECT**

**Masmira Kurniawati**

## **Abstract**

Medicine is one of a very important products in a consumers' life that have unique characteristics needed to be considered by the marketers. The effectiveness of medications that are often measured from the level of the patient's recovery emerged as a result of the effects of drug therapy and also the level of belief of the patient himself. This influence of these beliefs and stimulation are known as the placebo effect of the drug (Shiv, Carmon, & Ariely, 2005). This study attempts to demonstrate that marketing strategies, especially the pricing strategy, which is implemented by the manufacturer may cause the placebo effect on consumers. Pricing strategy used in this study is the high price vs. low price and normal price vs. discount price. Experiment design was used in this study with 120 participants.

Keywords: placebo, high price, low price, normal price, discount price

## **1. BACKGROUND**

Health is very important and essential for human life. In this regard, the United Nations in its Millennium Development Goals has set health as one of the basic right of the individual and is protected by international conventions. Drug as one of supporting factor in the development of health infrastructure becomes a key success factor in the development of public health. Therefore, it should be prioritized on its availability, efficacy, and affordability for the entire population.

Physiologically, drug is a chemical substance with a certain dose level given to a human body and be able to influence human body metabolism and evoke a therapy effects. In the context of healing an illness, it takes not only physiological processes in the body but also the psychological processes of the patient in the form of belief of the efficacy of medicine used. Thus the patient's recovery will occur as a result of the effects of drug therapy and also the beliefs of the patient himself. The influence of these beliefs and stimulation are known as the placebo effect of the drug (Shiv, Carmon, & Ariely, 2005).

Linking this placebo effect in the realm of marketing science, especially consumer behavior, will bring appeals and challenges for the benefit of consumer empowerment in

accordance with the basic rights of individuals to live healthy. This is particularly relevant given the increasingly diverse and intense advertising and marketing strategies of drug companies that will directly affect the level of consumer confidence on the quality of the drugs subjectively.

On the other hand, price has also been widely believed could affect the judgement of quality of the product, subjectively or objectively. With regard to drugs, consumers are willing to buy at any (higher) price because they expect higher quality as well. It can be seen from the decrease percentage of generic drugs sales (which have low price) over the last 7 years from 12% to 8% in 2008. This phenomenon also explain why health issue has always become a priority in any political agenda in Indonesia. People always complain about the high price of the drugs, but on the other hand drugs always ranked top three for media advertising spending even in times of economic crisis (IMS, 2008).

In general, pharmaceutical industry has always been one of blue chip stocks in stock exchange and a barometer of welfare level in various countries. At the end of 2008, the national pharmaceutical market posted sales of about 40 billion dollars with a growth rate about 17%. In Indonesia, there are about 320 manufacturers in the pharmaceutical sector, including foreign direct investment and state-owned company, involved in drugs manufacturing, distribution, and retailing. Hence, Indonesian pharmaceutical industry is a highly competitive sector (IMS, 2008).

In the field placebo effect research, classical conditioning theory of Pavlov is used widely to explain this phenomenon. According to this theory, the treatment with active substances (which has a therapeutic effect) is the unconditioned stimulus (US) and the healing effect is unconditional response (UR). Drug administration (CS) will be able to evoke response generated from the content of active substance, i.e., a placebo effect, as a conditioned response (CR) (Kirsch, 2004; Montgomery and Kirsch, 1997; Stewart-Williams, 2004; Stewart-Williams and Podd, 2004). Convergence view suggests that the placebo effect is produced by the expectation response and classical conditioning explains how that expectation response was formed and activated (Stewart-Williams and Podd, 2004; Kirsch, 1997, 2004).

In addition, consumer beliefs about the relationship between price and product quality (Kotler & Keller, 2012) also contribute to the occurrence of this placebo effect. It has been believed that the high price and well-known brand is an indicator to determine the

quality of a drug product (Kirsch, 2004; Stewart-Williams, 2004; Stewart-Williams and Podd, 2004). Furthermore Kotler and Keller (2012) state that seemingly right level of price of a product will be determined in part by consumers's reference price. Reference price is formed due to internal factors such as personal experience or external factors, such as a marketing strategy.

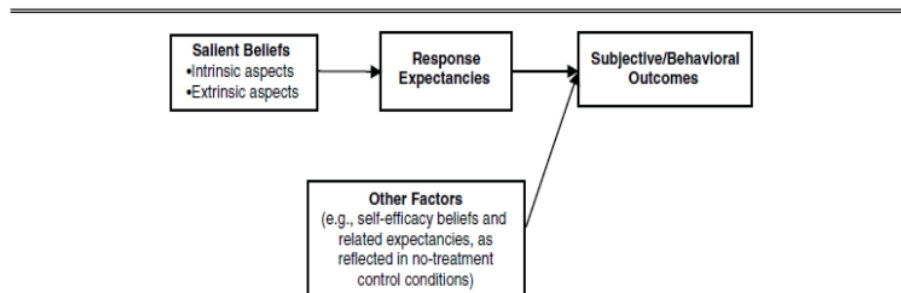
Considering the existing phenomenon where consumers judge the cheaper drugs with lower quality whereas public service ads delivered by the government state that the cheaper generic drugs also has a quality that is not much different from other patent medicines, this study was conducted to see whether the pricing strategy used by the manufacturer may cause the placebo effect on consumers.

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## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### 2.1 Relationship between Price and Placebo Effect

Shiv, Carmon, and Ariel (2005) posits that price will affect an individual expectation response given their individual beliefs on the relationship of price and high quality products. As Figure 1 explained, extrinsic cues (such as price) will enable consumer's beliefs about product quality (Rao & Monroe, 1989).



**Figure 1 Placebo Effect Framework  
Shiv, Carmon, & Ariely (2005)**

Therefore, consumers often believe that price level reflects product quality where lower product prices will cause a consumer's belief that product has poor quality and vice versa. Thus Hypothesis 1:

***H1: Price strategy causes placebo effect***

***H1a: High price level will cause positive placebo effect***

*H1b: Low price level will cause negative placebo effect*

## **2.2 Relationship between Price Change (Discount Price) and Placebo Effect**

Grewal et al. (1998) proposed a conceptual idea that consumers will establish a price (a price scale) from environmental stimulus as a result of purchasing and using products. This stimulus can be grouped into three categories, namely: (1) focal stimulus category, including dimensional consistency, intrinsic/extrinsic of a product; (2) contextual stimulus category, including physical and social environment surrounding the product, and; (3) organic stimulus category, including level of consumer knowledge about the product, along with the risks and emotional value. All these factors will form the internal reference price (IRP) within the consumer. The IRP will be used in evaluating a product.

The depth of IRP will then the expectation response. Consumer's IRP will also stimulate the formation of expectation response. The change in pricing strategy by providing a lower price (discount) will reduce the level of expectations response. Thus, consumers who have high level of IRP are expected to experience negative placebo effect when a given product is at a discounted price. Instead, for the consumers who have low levels of the IRP, the positive placebo effect is expected to occur on regular prices as a result of high level of expectations response. Thus Hypothesis 2:

*H2: Discount price will cause placebo effect.*

*H2a: Normal price will cause positive placebo effect.*

*H2b: Discount price will cause negative placebo effect.*

## **3. RESEARCH METHOD**

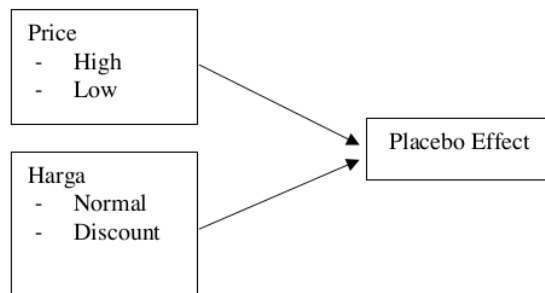
### **3.1 Research Design and Sample**

Between-subject was used in this experimental design. There are four types of groups in this study consisted of two groups to test the effect of the high vs. low price on placebo effect and the two groups to test the effect of discount vs. regular price on placebo effect. For each group there were 30 participants which make up 120 participants. Participants were students of Economics and Business Faculty of Universitas Airlangga who took Management subject. They were agree to participate in experiment for some extra credits.

### 3.2 Variable Measurement

Variables used in this study are independent variables (prices) and dependent variable (placebo effect). To measure price, the treatment was conducted by administering iron supplements with additional information about the price. Price will be manipulated so that so that there is one product that is considered expensive and the other product is considered cheap. For the study of price change, additional information about the price of the product under normal and discount conditions will be given. Iron supplements chosen in this study because iron in human body will physiologically draw more oxygen so as to support the vitality in performing cognitive and motoric activity of an individual.

### 3.3 Research Model



**Figure 2 Research Model**

## 4. Result

### 4.1 Study 1

The purpose of Study 1 is to determine the effect of price (low and high) on placebo effect. At the beginning session, participants were informed that as part of this study they were asked to drink iron supplements named Sangobion. They were also informed about the content of the supplement which are vitamins and minerals, the benefits of supplement, as well as the expiration date of the supplement. To provide information on price, in each group, information was given about prices of other iron supplements so that participants can see that whether Sangobion was in high or low

category. After that the participants share a word puzzle and asked to complete 20 puzzles in 15 minutes.

Based on the number of puzzle successfully completed, it showed that high-price group completed more ( $M = 4.9$ ) than low-price ( $M = 2.9$ ). The result of Independent Samples t-test showed that the averages differ significantly ( $t = 7.487$ , sig. 0.000). Thus these results support *H1a: High price level will cause positive placebo effect* and *H1b: Low price level will cause negative placebo effect*.

#### 4.2 Study 2

The purpose of Study 2 is to determine the effect of price change (normal and discount) on placebo effect. Study 2 using a similar procedure to that of Study 1. The difference is in price manipulation. For normal prices, information was added about product price trend over the last 3 months. While in the discount group, information was added that the current product price was at a discount.

From the results of the puzzle successfully completed, the normal-price group successfully completed more ( $M = 4.7$ ) than discount-price ( $M = 2.7$ ). Results of Independent Sample t-test showed that the averages differ significantly ( $t = 9.024$ , Sig. 0.000). Thus these results support *H2a: Normal price will cause positive placebo effect* and *H2b: Discount price will cause negative placebo effect*.

#### 5. Conclusion

It has long been known that the actions of marketers will influence consumer perceptions of product that will ultimately affect consumer buying behavior. The results of this study indicate that the determination of pricing strategies used by marketers, particularly on health products, can cause the placebo effect on consumers.

As marketing theory posits, price as perceived by consumers contains implications of product quality. These findings support the idea that product pricing consideration should correspond with product quality and target market. This means that control over product quality has an important role in influencing consumer purchasing behavior. It should be the next task of marketers to convince consumers that lower-priced products, for example due to subsidies from the government, are still has a good quality in curing

the disease. It is necessary that the government's efforts in improving the quality of public health can be achieved.

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