

Investigating the Impact of Herbal Medicines Marketing Mix and Physicians' Product Involvement on Prescription of these Drugs

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Abstract

Although the main side effects of chemical medicines have been discovered, the level of using herbal medicines is still low in Iran. Today prescribing herbal medicines along with chemical ones have different kinds of advantages including: increased health rate in society and developed job opportunities in the fields of agriculture, medicine industry and all of related processes. In our country there are few researches in which the important factors influencing the prescription of herbal medicines have been investigated. Thus to fill this gap the main purpose of this paper is to study the impact of marketing mix of herbal medicines and physicians' involvement about these drugs on prescribing them. Thus to develop this research 253 doctors in Isfahan were evaluated. In order to examine the main hypotheses Spss19, Structural Equation Modeling (SEM) and Amos graphic have been used. Results showed that marketing mix and all of its components and also physicians' product Involvement affect prescribing of herbal medicines.

Key words: Marketing mix, Involvement, Herbal Medicine

1. Introduction

Iran is a country with high potential for cultivation of medicinal plants and has an old history in herbal medicines sciences, but despite the side effects of chemical drugs, the use of herbal medicine in Iran is relatively low. Today with risky and increased side effects of drugs, pharmaceutical industries tend to develop medicines with plant origin to attract new markets and increase satisfaction of existing ones. Prescription of herbal medicines along with other drugs has vital benefits such as community health and brings job opportunities in the field of agriculture, herbal medicines manufacture and processes between them. Thus to achieve this goal manufacturers try to coordinate demands and needs of the target market which is called marketing of herbal medicines. Marketing strategies, target the ultimate consumer but in the field of drug usage the impact of doctors as the central mediators is vital because patients rely on doctors' experience and knowledge so their viewpoint is as important as patients' (Janjua,2006). Moreover prescription of herbal remedies by physicians depends on their level of involvement to these drugs. According to Day involvement indicates the overall level of attention and importance of an issue for individual. The most important factor in choosing a product is the rate of recognition every customer has about it. In the other hand customer recognition is affected by the level of his involvement. So the purpose of this study is to investigate the impact of herbal medicines' marketing mix and doctors' product involvement on prescribing them in the city of Isfahan.

2. Literature Review

2-1. Marketing mix: Today making balance between marketing and production activities through proper planning of marketing mix is vital. The concept of product marketing mix was introduced by Culliton in 1948. Then from the 1940s onwards it was percolated in all marketing researches and opinions so that he was called "difference maker" (Goi.2009).

The term marketing mix was first used by Borden at a conference in 1953 (Anderson & Tylor,1995). He introduced twelve-controllable marketing elements in an article in 1964 and stated that running these factors properly is profitable for each company (Borden,1964). Borden considered marketing mix as a blend of ingredients, techniques and processes that marketing managers use them to design marketing activities (Banting & Ross,1973; Waterschoot & Bulte ,1992). Then in 1960 these elements were decreased into four factors by McCarty and this simplified model was used to define marketing mix (Judd,2002). Actually marketing mix is a set of controllable and strategic marketing tools that help companies get desired result from target market thorough mixing them (Kotler & Armstrong,2008). According to Palmatier (2008) marketing mix is an organizational function and a set of processes to establish good relationship with customers, creating value for them and managing customer relationships so that it brings profit to the organizations and stakeholders.

In this study according to research background marketing mix includes: price, product, place and marketing communications.

2-2. Involvement: Recently the concept of involvement has become a vigorous topic in marketing field. Now marketers have recognized that the first step to satisfy customers' necessities is considering their cognitive structure and mental models which underline their involvement (Srivastava & Kamdar,2009).

The concept of involvement has originated from social psychology. In this arena involvement shows the importance of social issue in individuals' life. This concept is a major and critical framework for understanding consumer behavior, decision making and his communications (Bian & Moutinho ,2008; Chakravarti & Janiszewski,2003).

The most important factor in choosing a product is the rate of recognition every customer has about it. In the other hand customer recognition is affected by the level of his involvement. According to Day involvement indicates the overall level of attention and importance of an issue for person (Day.1970). In this paper herbal medicines (a combination of effective herbal materials which are raw or processed with additives like diluters, preservatives and solvents (Calixto,2000)) involvement indicates the importance of these drugs for doctors and shows their interest for prescribing them.

3. Conceptual Model and Hypotheses

Today with increased side effects of chemical drugs pharmaceutical industries tend to develop drugs with plant origin. Therefore encouraging doctors and physicians to prescribe these herbal medicines is an important challenge marketing managers are facing with. Thus the aim of this paper is to investigate the impact of herbal medicines marketing mix and physicians product involvement on prescription of these drugs.

In the following we will develop our hypotheses and present the conceptual model of our research.

H1: Marketing mix of herbal medicines influences prescription of these drugs by physicians.

H1a: Features of herbal medicines influence prescription of these drugs by physicians.

H1b: Price of herbal medicines influences prescription of these drugs by physicians.

H1c: Place of access to herbal medicines influences prescription of these drugs by physicians.

H1d: Marketing communications of herbal medicines influence prescription of these drugs by physicians.

H2: Herbal medicines involvement level of physicians influences prescription of these drugs by physicians. Figure 1 shows the conceptual model.

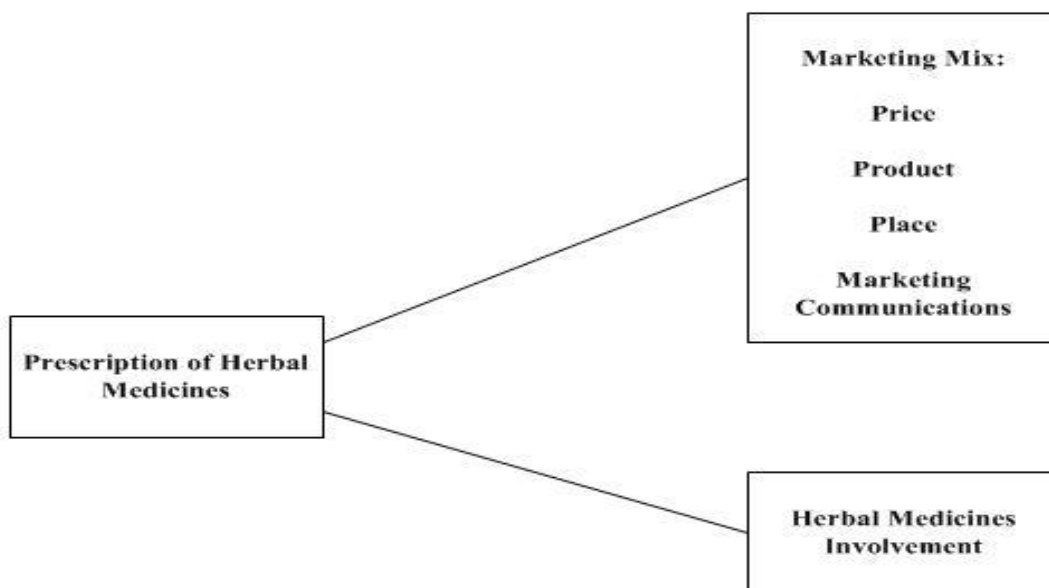


Figure1 Conceptual Model

4. Research Methodology

4-1. Sampling: To investigate the impact of herbal medicines marketing mix and product involvement of physicians on prescription of these drugs, 253 doctors in Isfahan were chosen. This sample size was determined by Cochran's formula. Finally through classified sampling 102 general physicians and 251 specialists were selected.

4-2. Measurement: In this study a researcher made questionnaire was designed for data collection. We rate the measurements on a five-point Likert scale from "strongly disagree" (1) to "strongly agree" (5).

To determine the validity of the questionnaire face and structures validity applied. For face validity 10 marketing experts assessed and modified the measurement and for evaluating structures validity confirmatory factor analysis were used. To test reliability of this measurement Cronbach's alpha was used. The total Cronbach's alpha was 0.907 which confirms the scale reliability.

5. Results and discussion

Test of Hypothesis 1: By using Spss19 hypothesis 1 and its four secondary Hypotheses were examined. In order to investigate the impact of herbal medicines marketing mix on prescription of these drugs by physicians the average of answers was calculated. Then because of using a five Likert scale this average was compared with number 3. Results show that significant of all tests was less than 0.05 and all of upper and lower limits were positive. Therefore hypothesis one and its four secondary hypotheses are accepted.

In previous researches, only some of the marketing mix variables were considered. For example Pedan and Wu (2011) have investigated the impact of sales promotion. Results showed that expression of detailed information and distribution of pharmaceuticals examples

has a positive impact on the share sale and it was also proved that advertisement through medical magazines has significant impact on prescription.

Campo et al., (2007) in a paper titled "Doctors' decision-making process and impact of marketing mix on prescribing medicines" concluded that one of the most powerful tools for marketing of drugs is presenting detailed information on them. It was also proved that some marketing incentives such as holding free medical meetings and conferences influence the prescription of medicines.

Test of Hypothesis 2:

Analysis of structural Model: The method of maximum likelihood estimation in Amos Graphics 18 software was used to test hypothesis 2. To assess the fitness of the proposed model, Normed Chi-Square of model (Cmin/df), the Tucker –Lewis index (TLI), the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and parsimonious comparative fit index (PCFI) were used (Byrne, 2010). After refining the initial structure model, all of the goodness of fit indexes was found within acceptable range indicating that the model of the hypothesis 2 has a good fitness (Byrne, 2010).(Table 1).

Table-1 Goodness indicates of the structural model

Indicators	CFI	CMIN/DF	RMSEA	PCFI	TLI	P
Values	0.993	2.37	0.054	0.63	0.989	0.069

Hypothesis Testing: Hypothesis 2 mentioned that Herbal medicines involvement level of physicians influences prescription of these drugs by physicians. As the results show ($\beta=0.751$, C.R = 6.86, $p<0.05$) this hypothesis is accepted.

There are few researches in which the impact physicians' involvement on prescription has been investigated. For instance Chinburapa et al.,(1993) conducted a research and evaluated doctors in two stages. After section one, they increased the level of physicians' involvement. Results showed that in stage 2 doctors made better decisions about prescribing medicines because their involvement were increased. In another study Clark(1992) indicated that doctors with high medicines involvement prescribe those drugs which are the best in curing patients.

6. Conclusion

The aim of this research was to investigate the impact of herbal medicines marketing mix and product involvement of physicians on prescription of these drugs. Results proved that marketing mix and its components influence prescribing the herbal medicines by doctors. This outcome is consistent with results of studies conducted by Peddan and Wu (2011) , Montaya et al.(2007) , Campo et al.,(2005) and Rand(1941).

It was also demonstrated that physicians involvement about herbal medicines affect prescription of them. This result is consistent with studies of Chinburapa et al.,(1993) and Clark(1992).

Our paper has some implications. It is suggested that pharmaceutical companies through market research determine that what features are important for a special kind of drug to be approved by the medical society. Because of the impact of price on prescription of drugs it is

recommended that in order to help patients pay less price pharmaceutical companies form a union and negotiate with insurance companies to coverage herbal medicines. It is also proposed that in order to increase physicians' involvement about herbal medicines producers of these drugs hold proper conferences for doctors.

In spite of advantages and implications our research has limitations as well. The most vital limitation of this study was hard access to doctors and not having enough time to answer questions. In addition lack of marketing literature on herbal medicines in Iran was another limitation of this paper.

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