

BEHAVIORAL FACTORS INFLUENCING PHYSICIANS' DECISION IN CHOOSING A NEW DRUG: AN EMPIRICAL RESEARCH AMONG THE UNITED ARAB EMIRATES HEALTHCARE PROVIDERS

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ABSTRACT

Background: Doctors are reported to be the final decision makers of which brand / drug should be prescribed to the patients. Therefore, all the marketing strategies and plans are being focused towards them. Marketing strategies are concerned around drug / product, price and promotions and pharma companies are making marketing strategies to push the medical practitioner or physicians' prescribing behavior toward their products **Material & Methods:** The present cross-sectional study aims to describe physicians' prescribing behavior toward a new product introduced to the market. A questionnaire developed using SurveyMonkey.Com to assess factors, based on the demographic, psychological, educational and legal characters were distributed randomly among 103 healthcare providers from various specialties. **Results:** Majority of the participant doctors were mainly Gynecologists and they were represented by 89.3%, second come Urologists representing 10.7% of participants. The range of healthcare providers' age gathered for this survey is 35-65 years. All 103 participants were subjected to questionnaire assessed by SurveyMonkey.Com and interpreted on Likert scale from 1 to 5, where 1 indicates "Highly Important" factor and a value of 5 indicates "Negligible" factor. Patient's financial status, Personal Experience & Knowledge and Governmental guidelines were the factors of the highest importance. Drug Samples, Company's reputation and Using Google\UpToDate websites were the factors of the least importance. **Conclusion:** Main findings showed that most of physicians exhibit significant depending on their own experience and knowledge in the first place, then pharmaceutical representatives' guidance and related meetings and conferences before deciding regarding certain medical conditions. Direct to Consumer (DTC) advertising, Patient's financial status and the adverse effects of the current therapy comes is of high importance however in second place after mentioned factors.

Key words: Pharmaceutical marketing, healthcare providers, Direct to Consumer advertising.

INTRODUCTION

Competition is increasing every day in pharmaceuticals business field and immediate adoption and fast reactions to these frequent changes is the only way to survive in the competition. In the field of pharmaceutical marketing, every day different

companies obtaining different brands with numerous molecules and different combinations for the same medical conditions that healthcare providers (HCPs) are facing on daily basis (1). In this perspective

medical practitioner and general physicians are the key consumers for this industry (2).

Doctors are reported to be the final decision makers of which brand / drug should be prescribed to the patients. Therefore, all the marketing strategies and plans are being focused towards them (3). Marketing strategies are concerned around drug / product, price and promotions and pharma companies are making marketing strategies to push the medical practitioner or physicians' prescribing behavior toward their products (4). In this research, several factors, which are of an influence on the prescription behavior of physicians was investigated.

Pharmaceutical marketing is the way in which drug companies deliver their products to the targeted customer or healthcare providers, on yearly basis, drugs/medical equipment firms spend quite huge amount of money on marketing their products with huge efforts and time (5). Being part of a pharmaceutical company, our company went through plenty of problems specially in introducing new products to the market of United Arab Emirates. The market in this country is very competitive and demanding, hence it brings up more challenges and obstacles for new entries (6).

Knowing and analyzing those factors will help us as firms and marketing people to save quite big spending in marketing annually, and also will save time and efforts being spent to reach and affect such factors in order to achieve more sales in limited time and eventually placing such new product in a concrete, well established position in the market (8). In this piece of research, the goal was to draw an outcome or hypothesis in which such pharmaceutical companies can define certain behavioral factors that healthcare providers follow in decision making of choosing a new drug in the market for a certain medical condition (7).

MATERIALS & METHODS

The present cross-sectional study aims to describe physicians' prescribing behavior toward a new product introduced to the market. In this exploratory paper the information was collected for the first time by inductive approach here in UAE and was compared to

other result and investigations worldwide. A questionnaire developed using SurveyMonkey.Com to assess factors, based on the demographic, psychological, educational and legal characters were distributed randomly among 103 healthcare providers from various specialties (ninety two Gynecologist and eleven Urologists) all around the private hospitals and clinics of United Arab Emirates. The questionnaire was following a Likert scale design. The questionnaire involved questions related to Q.1 Effect of Patients' active request for certain medications, Q.2 Patient's financial status, Q.3 Drug representative's medical information provided, Q.4 Drug Samples, Q.5 Personal Experience & Knowledge, Q.6 Governmental guidelines, Q.7 Adverse effect of current therapy, Q.8 Company's reputation, Q.9 Using Google\UpToDate websites and Q.10 Meeting or conferences. The answer options had been replaced with numerical numbers ranging from 1 to 5. That is, the Likert scale was ranging from "Highly Important" to "Negligible". A value of 1 replicates a feeling of "Highly Important" with the statement. A value of 5 depicts a more positive attitude of participants towards a statement "Negligible". A value of 3 is equivalent to a "Neutral" stance towards a statement whereas a value of 2 refers to "Important" and a value of 4 considered that the statement was "Not of High Importance" upon by physicians. Furthermore, the Cornbach's Alpha Index used to answer the research questions and to draw a hypothesis out of this research Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

RESULTS

The data was built from survey conducted from 103 Healthcare providers. All the questions of the survey were answered by the participants and that is why the survey was considered usable. All data will be shown in descriptive statistics will be about the targeted population (doctors' group demographics), data about specialty, age and gender. The following table will brief all the 103 samples. (Table 1)

Table 1: Distribution of study participants according demographics

Parameters		Frequency	Percentage
Gender	Male	25	24.3%
	Female	78	75.7%
	Total	103	100%
Age	35-45	14	13.6%
	45-55	66	64.1%
	55-65	23	22.3%
	Total	103	100%
Specialty	Gynecologist	92	89.3%
	Urologist	11	10.7%
	Total	103	100%

The majority of participant physicians were females with 75.5% and male doctors represented the rest 24.3% of participants. Table1 also indicates the age distributions of participants. The range of healthcare providers' age gathered for this survey is 35-65 years. The age groups were divided into three categories of ten years each. The age group 35-45 years represented 13.6% of participants, 45-55 years group category represented 64.1% of participants and the final group of 55-65 years represents 22.3% of respondents. From table 1 it's clear that majority of the participant doctors are mainly Gynecologists and they are represented by 89.3%, second come Urologists representing 10.7% of participants.

Table 2: Distribution of study participants according to analysis and Interpretation from questionnaire.

Questions	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9	Q.10
Respondents	103	102	102	102	103	103	102	102	103	103
Missing	0	1	1	1	0	0	1	1	0	0
Median	2.00	2.00	2.00	2.50	1.00	2.00	2.00	3.00	4.00	2.00
Mean	2.40	1.83	2.25	2.67	1.38	1.84	2.19	3.37	3.66	2.22
S.D.	1.08	0.78	1.01	0.99	0.58	0.63	0.79	1.11	0.95	0.98

Table 2 reports that the sample built up of 103 participants and there are some missing values which might have been missed accidentally. Mean, Median, and Standard Deviation are calculated spontaneously by SurveyMonkey.Com on a five-grade scale for each question from Q1 to Q10. The measurement scale was designed in a way that a value of 1 indicates "Highly Important" factor and a value of 5 indicates "Negligible" factor with the mentioned question. Hence, a mean value of 2 or less "Important" indicates a superior factor to be considered towards the statement of the question and a mean value of 4 or more "Not of High Importance" specifies a minimum priority for this factor toward certain situation. A value if 3 signifies an undecided "neutral" attitude towards the statement.

It's noticeable from the mean values in table 2, that Q2, Q5 and Q6 are the factors of the highest importance when it comes to prescribing new drugs for doctors of our area. As the mean values of those questions are lower than 2 "Important" and higher, as

1 represents "Highly important" option. Then comes Q7, Q10, Q3 and Q1 in as less important factors to be considered before recommending a certain new treatment. Last but not the least, factors with the lowest importance are Q4, Q8 and Q9 respectively, those statement were given the lowest importance scores of all available options according to the respondents.

DISCUSSION

In this study, the questionnaire findings were in correlation with interpretations and comments on results. A summary of current outcomes will build a connection toward the factors of the previous articles in pharmaceutical marketing field and how to benefit from such understandings in actual field. As mentioned earlier, table 2 mean values give an impression about how statements are classified according to priority while prescribing any new medication by doctors participated in this survey, for further detailing;

Effect of DTC advertising, surprisingly more than half [56.31%] of physicians who have participated consider this as "Important" factor and even [14.56%] of them consider it as "Highly Important" element prior to prescribing, especially in case of a patient who has been offered a medicine or heard about it by a recommendation from his/her colleagues or family members, some doctors justified the importance of this factor from a psychological point of view -if patient's request fits with the condition-, stating that whenever a patient received a medication that he's seeking for, he/she might believe in faster treatment or recovery. On the other hand, some physicians consider that their patients are in complete unawareness of their medical situation and they should never interfere with the doctors' decision or prescriptions. Effect of DTC was explained in a study done by Ventola C et al (9)

Patient's financial status, results of this factors showed a relatively more answers toward the importance rather than negligence, [35.29%] of physicians put a huge consideration for their patients' financial status and they picked "highly important" option, moreover [50.00%] of respondent doctors chose "Important" regarding the price of the drugs they're prescribing and the ability of their patients' to pay for it, specifically those who are not under any insurance policy. The rest of participants who have other opinions, considered that the effective drug is must to be prescribed regardless to the patients' paying ability because "when it comes to health, money comes in second place" according to one of the participants. Similar findings were reported in a study by Vancelik S et al (10).

Drug representative's medical information, results matched -to certain extent- what was briefed in literature review about this factor, 58 out of 103 physicians [56.66%] picked "Important" and [18.63%] of them chose "Highly Important" as they considered that medical representative are reliable source of information to update the medical knowledge about new drugs in the field and the to be updated with the most recent treatments. On the other hand, some participants (14 physicians) used to consider that any information provided by sales representative is business oriented, and it's important to refer for books or experts before trying any new medications on

patients. Similar dynamics explained in study done by Chimonas S et al (11).

Drug Free Samples, statistics of this factor showed that majority of physicians consider free sampling is a good and appreciated idea because it offers them an opportunity to either start a trial on the new product, or even dispensing it directly for those patients who are incapable of affording its cost in pharmacy. Precisely 43 participants [42.16%] of doctors consider free drug sampling as "Important". A considerable number of participants [31.37%] felt that it is not of an impact on their prescribing habit to have a free sample on their desks and even some of them would refuse to keep it on shelves for some legal issues restricted to the place where they work. Similar dynamics explained in study done by Fugh-Berman A (12).

Personal Experience & Knowledge, the vast majority of doctors has given this option the highest response rate, these statistics match some previous researches and considered logical. [69.99%] of all physicians considered "Highly Important" answer for this statement, and [28.16%] has chosen "Important" answer. So, the main dependence for physicians before making any treatment decision is their personal experience and knowledge. Similar findings reported by Theodorou M et al in their study (13).

Governmental Guidelines, [60.19%] and [28.16%] of participant doctors put a lot of consideration for this statement and chose "Important" and "Highly Important" respectively, as a matter of fact those doctors put a priority for governing authorities' regulations before choosing a new product for their patients, to avoid any violations or legal lawsuits with their patients in case of treatment failure. This was in context of study done by Rayes I et al (14).

Adverse effect of current therapy, this statement was also relatively important for most of participants, especially for those doctors who are unable to manage their patients' treatment adverse effects. Physicians do struggle a lot to find the best therapy for their patients with minimum complains about it, that justifies why [56.86%] of participant healthcare providers have chosen "Important" for the treatment that will allow their patients to shift for a safer therapy with lesser side effects, moreover, [15.69%] has chosen "Highly

Important" which support this theory. On contrast, around Five percent of respondents consider that patient's tolerance of side effects would be better than shifting to another new therapy. This was in context of study done by Lewis P et al (15).

Company's Reputation, amazingly, this statement was of a weak effect on physicians' decision-making process regarding dealing with new drugs, [30.39%] of doctors believe that pharmaceutical firm's reputation and strength in the market is "Not of High Importance" to push them to start a new medication provided by this firm, [16.67%] found it even "negligible" to know about the company and what is it all about or what does it provide. On the other hand, less than twenty percent of participants do believe that Company's reputation plays an important role for them before starting or accepting a new product or therapy. This was in context to the study conducted by Al-Areefi M et al (16)

Using Google\UpToDate websites, in controversy to what has been mentioned in the literature review about how much do physicians and residents depend on online information resources to update their personal knowledge and their treatment options, the findings of this study indicate that physicians can't really rely on online resources due to lack of credibility and easy accessibility to this information by any online user. As a conclusion, [36.89%] and [20.39%] of respondents believe that online information resources are "Not of High Importance" and "Negligible" when it comes to choosing a treatment or gathering information about new medicine in the field. However around [9%] of respondents consider internet information as a reliable source. This was in context to the study conducted by Porterfield A et al (17).

Meeting or conferences, more than half of the participant doctors think that the presence of pharmaceutical firms in international conferences, seminars or workshops and arranging meetings for professional discussions, and any type of professional gatherings will build better trust toward such companies' products or treatments. To be precise, [47.57%] of HCPs has chosen "Important" for this factor, and [22.33%] has chosen "Highly Important" for this factor. In contrast, around eleven percent of the targeted population has chosen to not give an

importance for this statement. This model was based upon Kyle, Nissen, Tett's model (18).

CONCLUSION

Main findings showed that most of physicians exhibit significant dependence on their own experience and knowledge in the first place, then pharmaceutical representatives' guidance and related meetings and conferences before deciding regarding certain medical conditions. Direct to consumer (DTC) advertising, patient's financial status, and the adverse effects of the current therapy is of high importance. However it comes in second place after mentioned factors.

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