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## RESEARCH ARTICLE

### BEHAVIORAL DYNAMICS TOWARDS SEEKING MEDICAL INFORMATION USING WORLD WIDE WEB AND SOCIAL MEDIA APPLICATIONS: LESSONS FROM SAUDI ARABIA

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The used of world wide web and social media platforms in Saudi Arabia is in sky rocketing and one of these many areas of research, readings and sharing is in the field of medical information for awareness, education and services. Such experience has contributed to the development of social phenomenon specifically on the behavioral dynamics among Saudis. The internet became a significant tool in shaping medical education and research development among Saudi in seeking medical information to provide them substantial data on their study is a behavioral indicator. It definitely affected their mental, emotional and physical wellbeing as far as education is concern. The public is making use of internet to educate them of possible medical services that they can avail; it may be in the form of health insurance, hospital services and medical consultations. This area form part of the growing social phenomenon among Saudi that describes their behavioral dynamics towards health services in the country and abroad. This paper is like a compendium of researches and discovered that the substantial amount of data is concentrated on the application of health sciences but the areas of medical psychology (behavior) and health services is neglected.

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## INTRODUCTION

It is true that the World Wide Web and the Social Media Platforms had become a global sphere of information across the globe. It contains array of information including the field of medical sciences that provides substantial data to the public. Whether such data is accurate or not remains a major challenge to the general public in sorting scientific versus fabricated data. Medical information in the internet is being feed not just by medical experts but also among consumers, business sector, governmental and non-governmental agencies. Social Media Platforms became a breeding ground of exchanging and sharing of ideas and experiences involving medical information, again whether those testimonies and shared data are true or not totally is an argument. This so-called medical information when absorb will eventually affects the state of behavior of an individual. These reactions will specifically relate to Mental Behavior, Emotional Behavior and Physical Behavior as a dynamic social being. This paper geared towards that direction among Saudi on their behavioral dynamism when seeking medical information using the internet. This paper clusters studies on the behavioral dynamics which involves mental,

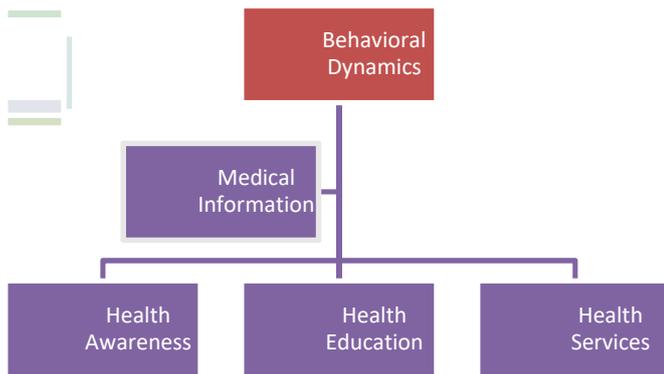
emotional and physical (MEP) reactions when accessing medical information for awareness, education and services. This phenomenon is limited when such information is taken from the world wide web and other social media platforms such as Face book, twitter etc. The study is centered among Saudis that tries to access medical information and its possible behavioral dynamism as a social phenomenon. This paper identifies depth of the subject matter involving researches on behavior in seeking medical information using WWW and SMP across ages and demographics representation in Saudi Arabia.

**Statement of the problem:** This paper on 'Behavioral Dynamics towards Seeking Medical Information Using World Wide Web (WWW) Applications and Social Media Platforms: Lessons from Saudi Arabia' provided the necessary data involving issues on Saudi behavior when seeking medical information. It specifically; clarified researches involving mental, emotional and physiological (MEP) behavior on medical information for health awareness identified researches involving mental, emotional and physiological (MEP) behavior on medical information for health education and provided in-depth analysis involving mental, emotional and physiological (MEP) behavior on medical information for health services.

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## FRAMEWORK



The discussion of this study was framed in the following manner beginning from behavioral dynamics which represents behavioral components on mental, emotional and physical reactions of Saudis when seeking medical information. This part examines researches conducted and interprets the MEP behavior of individuals when seeking medical information. Another segment of this paper is emphasizing the medical information available in World Wide Web and social media platforms. This segment identified researches conducted in Saudi Arabia related to medical information available in the internet. The objective of this paper was to discuss the behavioral dynamics of Saudi when seeking medical information specifically on the following issues involves; health awareness, health education and health services. This paper provided substantial information as to how Saudi behaves when seeking medical information.

## MATERIAL AND METHODS

This paper employed Qualitative Research Design (QRD) specifically on the application of expository writing. The focus of qualitative design in this research is to look into the behavioral dynamics of Saudis specifically on their mental, emotional and physical reactions when seeking medical information. It deals on exploration, description, and interpretation of data and reactions on seeking medical information using World Wide Web applications and social media platforms. It has design characteristics such as flexible, evolving and emergent base on the given data as a social phenomenon among Saudi. The variables in qualitative are needed for the gathering of data substantially based from the researchers conducted for the Saudi. This includes issues on behavioral dynamics across demographic composition of Saudi Arabia. Through qualitative the search of empirical reasons is essential in establishing the significance of internet in seeking medical information and the discovery of behavioral dynamics in doing so.

## DISCUSSION AND PRESENTATION OF INDINGS

### *Translating WWW and Social Media for Health Awareness*

There is a growing used of world wide web and social media platforms in Saudi Arabia and one of these many areas of research, readings and sharing is in the field of medical information. Such experience has contributed to the development of social phenomenon specifically on the

behavioral dynamics among Saudis. Their access towards internet had created reactions to their mental, emotional and physical well beings. This means, that the internet is such a powerful tool in shaping Saudis behavior even in the field of medical sciences. A research conducted by Hanan M. Asghar on "Measuring Information Seeking through Facebook: Scale development and initial evidence of Information Seeking in Facebook Scale (ISFS) at Effat University was published by the Journal of Computers in Human Behavior. The use of Facebook as a source requires reliable measures in seeking valid information. The behavior alone in seeking information is an important issue that basically theorized and taken into Uses and Gratification Theory (UGT) in social media. It is true that the public benefitted from the information services provide by Face book in the last two decades. It was seen that Face book was seen more of a fashion than information in the social media. Proper measures and adaptation of paradigm are needed to increase the substantial information needed by the public for the cognitive and physiological development.

In a research of Rahilaftikhar and Bahaa Abaalkhailon "Health-Seeking Influence Reflected by Online Health-Related Messages Received on Social Media: Cross-Sectional Survey" was published by the Journal of Medical Internet Research (2017) explained that the internet has become a channeling tool for people sharing and exchanging information on health sciences. The study pertains to the characteristics of the patients with relevance to their attitude towards medical information as seen in various social media platforms. The study also intended to look into how social media influence the way people deal about their health. Lastly, the study looked into the possibility of discontinuity of medication as suggested by social media. This research employed a cross-sectional survey on patients attending outpatient clinics at King Abdulaziz University, Jeddah, Saudi Arabia on patients who use social media. These social media platforms and online tools provide an avenue in sharing information among the general public making the internet as a self-created content. The mainstream society is using social media and online applications in discussing, sharing, analyzing health related issues among them, health professionals or other entities. Patients are sharing information, concerns and experiences about their health to family members and friends using social media and other online applications. This indicates that social media and internet applications are important tools if properly use for health related issues. These online tools will serve as public sphere in discussing issues on health science and public health such as in the areas of breastfeeding, cervical cancer and diabetes. This study also revealed that organizations are using social media platforms and online applications for their health campaigns proved to be a powerful strategy in achieving their goals. Social media platforms indeed increased the knowledge and awareness of the mainstream society towards medical information as to their choices, decisions, interpretations and interactions. The study also identified that medical information was generally taken from social media platforms by the mainstream society of Saudi Arabia. About one-fifth of those seeking medical information influence their decisions on health care. But, 46% admitted they do follow suggestions from social media on self-medication before consulting a medical expert and around 42% will also tend to stop medication upon seeking medical information from social media platforms and online applications. Indeed, social media and online applications are major tools in seeking medical information among Saudi and it does influence a fraction of the

population. This data must be taken into consideration by physicians to study medical histories of patients who relied on medical information from social media that are not scientifically or medically authenticated. This study also suggests to explore into people's attitude on their reluctance to share health and medical information in social media in a qualitative approach. It is suggested that Policymakers and doctors must regularize procedures on medical information that will affect medical care in the future. This also challenge policymakers to look into the accuracy of medical information in the era of digital age for the safety of the mainstream society.

A research identified by the IOS Press on "The Prevalence of Internet and Social Media Based Medication Information Seeking Behavior in Saudi Arabia" revealed that, Internet based social media platforms provide an accessible gateway for patients, caregivers and healthcare providers to share their health-related experiences with one another. Internet and online social media communities provide patients with information on disease management, medication use, and emotional support. In the Middle East, the internet and social media platforms such as Twitter and Facebook are used to search for health information, especially information related to the use of prescribed and over-the-counter medication. To date, there have been no previous studies that have explored the online medication information seeking behavior of the Saudi population. The purpose of this paper is to provide a survey of the prevalence and behavior of online medication information seekers in Saudi Arabia. This work will help future researchers and health practitioners plan interventions to improve the quality of public health outreach. Participants were asked to report their online medication information seeking behavior. A questionnaire queried the participants on how often they use the internet and social media to search for both prescribed and over-the-counter medication information. In conclusion, findings revealed that the Saudi population is making use of social media and online application tools to obtain medical related information. Limitations of this work include, generalizable of the sample to other populations – including people who do not use social media, the verification of participant identities, and requirement of more in-depth analysis about the factors influencing different social media preferences. Hence, future studies are needed to explore the influence of social media on user cognitive, psychomotor and affective well-being toward medications - including educational programs about safety, risks, and harm reduction related to online medication searches.

In a study by Khalid M. Al Ghamdi and Noura A. Moussaon "Internet use by the public to search for Health-related Information" published by the International Journal of Medical Informatics (2012), the social media and online tools are now considered as one of the major sources of Health-related information (HRI) as stated by experts from Europe and United States. The medical information related to disorders, diagnosis and treatments were made available via social media and online applications patronize by patients, doctors and researchers. Experts and policymakers are also facing dilemmas on the availability of health related information because its data as inaccurate, incomplete, out dated and heavily commercialize. There is a need for proper guidance and regulate medical information available in social media and online applications because of its danger to the mainstream society. Medical information from social media and online

applications can either add or harm the knowledge and relationship between the physician and the patients and this is true in Saudi Arabia like the rest of the world. After all the internet is not a charity sphere but a business tool aiming at making money more than solving the problem is surely debatable. Concerned agencies in Saudi Arabia must make it clear all positive and negative effects of medical information taken from social media and online applications for their own safety.

A study on "Diabetes-related information-seeking behavior: a systematic review" by the Journal of Systematic Reviews (2017), revealed that research on information seeking behavior of medical sciences is limited. There may be studies on information seeking behavior but it is rarely being analyze or review such as in the case of diabetes. Information from the internet made medical experts more active than passive as guided by evidence based problem method, including the interest of the main stream society towards medical information is becoming progressive. Highly educated young people tend to substitute medical information from the social media and online applications in the absence of medical experts or as a matter of choice.

The research article on "Association of Online Health Information-Seeking Behavior and Self-Care Activities Among Type 2 Diabetic Patients in Saudi Arabia" published by the Journal of Medical Internet Research (2015), it revealed that, medical information taken from the social media and online applications can influence patient's behavior and perception. This led to growing concern about the quality of medical information available from social media and online applications posted by various sources and medical electronic journals. This study encourages researches on behavior related issues on seeking medical information from the internet. The diabetic symptom is one of the medical information sought after by the mainstream society in Saudi Arabia but less information is known about their behavior seeking such information.

This study examined behavior related issues when seeking medical information from the internet by Saudis particularly those with diabetes conducted at King Saud University, Medical City, Riyadh, Saudi Arabia. The mainstream society in Saudi Arabia is becoming rapidly dependent on the internet due to availability of technology. Through this technology, one can have a direct access to internet when seeking medical information with possible dilemma on the sources of medical information. Those with diabetes are exposed to seek medical information via social media and online application. The social media became a public sphere among patients in exchanging and sharing their ideas and experiences with possible wrong interpretation of medical diagnosis and treatment. Related articles on diabetes have contributed substantial information about diagnosis, treatment and prevention. It demonstrated possible benefits when seeking medical information via social media and online application but with possible risk too as to its authenticity. Despite of possible risks in seeking medical information from social media and online application still there is a growing participation among diabetic patients in sharing their expression, advocacy, group support and humor. These are actually examples of behavior in seeking medical information in which health can be at risks as well as their privacy and other ethical issues. The study suggest that patient and physicians must agree on certain points in seeking medical

information their behavior towards absorption of data must be clearly define among them to avoid possible risks.

### **WWW and Social Media as a Learning Sphere on Medical Education**

The use of the internet was also seen as a necessity for those seeking medical information for education and health research as a discipline. The internet became a significant tool in shaping medical education and research development among Saudis in seeking medical information to provide them substantial data on their study. It definitely affected their mental, emotional and physical wellbeing as far as education is concern. The study of behavior in seeking information is not limited in medical field, it is also being use in the field of education or pedagogy such as this research on, "online socializing how does it affect information seeking behavior and the educational preference in Saudi Arabia" was published by the Journal of Computers on Human Behavior (2016). The presence of technology created a domino effect on the domination of social media in seeking information in a global sphere of internet. The social media became a significant tool in information sharing and advocacy in education or elsewhere in Saudi Arabia. The information seeking in social media had influence on the behavior of the Saudi in their social orientation and education. The study revealed that despite of the domination of social media in education the behavior of the young Saudi still suggests the blending of traditional classroom approaches and the e-Learning. Though there is a growing demand in Saudi Arabia on electronic materials as identified in their research behavior when seeking information. Saudi behavior towards information seeking in the social media must be taken as development facing the digital age of the world; isolation from the global sphere is not the solution. Proper guidance from policymakers is needed to ensure proper behavior is observing such as research ethics and privacy issues and to include quality of information taken from online sources and social media.

This is supported by another study of Aquil Ahmed and Sulaiman Al-Reyae on "Knowledge and Use of Electronic Information Resources by Medical Students at Al Jouf University in Saudi Arabia". Their research explained substantially that, the research behavior or information seeking behavior of medical students are dominantly into electronic materials as to health sciences. They normally examine cases involving evidence-based practices in medical sciences when seeking medical information. The study examines the behavior of medical students in using electronic data on seeking medical information of two different colleges at Al Jouf University. This refers to students in medicine versus those in the dentistry, the study identified that information seeking behavior or research behavior, and students from the medicine are more aggressive than those in the dentistry in seeking health related materials from social media and online applications. But it was also found out that medical students have difficulties on information literacy when seeking medical information. They need proper training on research using digital gadgets to avoid difficulties and stress in the behavior when seeking medical information. The field of medical information is rapidly growing similarly with information technology as aided by social media and online applications. The behavior of the students must be synonymous with these concepts as far as health science information is concern.

### **WWW and Social Media as Public Framework for Health Services**

Public health became a major field of study among medical experts and health policy experts. They saw the growing participation and reaction of the public towards this sector of the society. The public is making use of internet to educate them of possible medical services that they can avail, it may be in the form of health insurance, hospital services and medical consultations. This area form part of the growing social phenomenon among Saudis that describes their behavioral dynamics towards health services in the country and abroad. A sample study pertaining to healthcare services is based on Yaser R. Al Huthail on "Healthcare seeking behavior among subjects with irritable Bowel Syndrome (IBS)" in Saudi Med Journal 2013; Vol. 34 (3), this study emphasizes the healthcare services behavior in Saudi Arabia among those patients with bowel disorders or symptoms. In this case those with IBS symptoms tend to seek for healthcare services that will be responsible to their diagnosis, treatment, and consultation to physicians until recovery period. Healthcare system is an important issue in Saudi Arabia including those with IBS symptom. One important behavioral issue raised among IBS patient is the communication gap or patient-physician relationship in which both parties failed to provide substantial information either on histories or diagnosis. The issue of IBS is not simply about medication but also educating them for prevention and future treatment. This situation is a multi-level interaction on the behavior of the patient and the physician for better health care services in Saudi Arabia.

### **Conclusion**

This paper tried to cluster all existing researches pertaining to the behavior of Saudis in seeking medical information using the internet. There is an adequate number of researches pertaining to medical information but very few concentrated on the actual behavior of the Saudis when seeking medical information. This paper featured researches on medical information but it provided limited amount of discussion on the psycho-social component of it such as mental, emotional and physical well-being and reactions when they read and share medical information from the internet. The data involving in this paper were predominantly on the application of medical sciences but not so much on medical psychology as a rare field. This article identified that the internet is a significant learning tool for students in the field of medical sciences however, only one research in this paper was able to identify discussing on health services. This paper encourages that the study of medical science should not be limited only to its application, there is a need to look into the impact of its services and the psycho-social development of the Saudi towards the medical state of the country.

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