THE MOBILE MEDIA COMMUNICATION AND THE DOCTOR-PATIENT RELATIONSHIP IN THE CASE OF CHILDREN ENT DISORDERS

Daniel Adrian GÂRDAN[1] ORCID: 0000-0003-2569-6801
Iacob CĂTOIU[2] ORCID: 0000-0001-9184-6201
Iuliana Petronela GÂRDAN[3] ORCID: 0000-0003-2757-1308
Andrei BORANGIU[4] ORCID: 0000-0002-3969-0235

Abstract: *Communication through mobile media software represents one of the new trends that influence almost all fields of human activities. The applicability of such instruments are limitless when we speak about social groups type influence upon postmodern consumer behavior. Authors aim to investigate throughout a qualitative marketing research issues regarding the communication between doctors and parents having children with ENT (**E**ar, **N**ose, **T**hroat) specific disorders, the relationship that is developed and the degree in which the mobile media communication software represents an instrument which may help into the process of relationship and/or can influence opinions and perceptions already formed about a ENT doctor. The findings can originally contribute to a better understanding of this new kind of phenomena – mobile media mediated communication between doctors and patients as the research is one of the first within the field. Respondents show a high propensity to use the specific software analyzed, although because of the high level of emotional personal involvement the decision to choose a certain ENT doctor is not influenced so much by the pressure or opinions of the reference group.*

Key words: mobile media communication software, ENT doctor-patient relationship, decisional process, emotional involvement within medical services consumption

JEL code: M31, I12, L86

Introduction

The present paper is aimed to investigate issues related to communication between doctors and parents having children with ENT specific disorders. The context of evolving technologies and blended approach within the medical field involves analyzing all the trends that are manifesting and the implications of these phenomena.

The access to digital health communication channels produced major changes at the level of decision-making process and management of healthcare services. Both mass and interpersonal communication are combined in different ways, comprising discussions between patients and doctors, discussions between patients and patients, online information gathering etc (Kreps, G. L., 2017).

Interactive health information systems are capable to deliver specific tailored information according to individual needs and backgrounds. Finally, having this as a starting point we all can

[1]Spiru Haret University, Faculty of Economic Sciences, 46G Fabricii Street, 060821, Bucharest, Romania, danielgardan@gmail.com
[2]Bucharest University of Economic Studies, Faculty of Marketing, 6 Romană Square, District 1, 010374, Bucharest, Romania, iacob.catoiu@yahoo.com
[3]Spiru Haret University, Faculty of Economic Sciences, 46G Fabricii Street, 060821, Bucharest, Romania, geangupetronela@yahoo.com
[4]"Carol Davila" University of Medicine and Pharmacy, 8 Eroii Sanitari Boulevard, 050474, Bucharest, Romania, andrei.borangiu@umfcd.ro

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witness improvements at the level of health education, new ways of health promotion and even health behavior changes.

Dialog between doctors and patients have to be developed starting from a framework of interactions managed accordingly by healthcare institutions and specialists. Patient centered communication is the basis for this relationship and can be institutionalized through a formal education applied to doctors themselves. The key functions of the communications between doctors and patients like fostering healing relationships, exchanging information, assuring the framework for expressing patients' emotions, engaging in informed and collaborative decision making, improving patient care self-management, are requiring particular sets of communication skills for every single function (Levinson, W., Lesser, C. S., & Epstein, R. M., 2010).

The patient centered communication will start with the correct assessment of patients' needs and wants, not merely individual ones but also that it is required for the good evolution of the treatment. Subsequently dialogue between doctors and patients will clarify patients' perceptions and help to implement a type of collaborative decisions for the best interest of the patient. The communication process requires from the doctors multiple communication tasks, a genuine engagement and emotional involvement.

Literature review

The future of healthcare is seen as a better communication between community of doctors and patients alike (Hawn, C., 2009). Still concerns are in place regarding the privacy of patients health information, the quality of user generated content, the accuracy of information provided within a social network of patients etc. Another issue that has been pointed out refers to perception of some doctors that are considering the internet-based communication will never be able to substitute the in-person examination. Many independent practitioners or little medical offices doesn't succeed to adapt to the use of social media, the lack of protocols and standards concerning this issue being a barrier for the adoption of these technologies.

Some chronically ill patients can cope with their everyday routine task related to their treatments thorough social media type communication. They post details about their condition and treatment and get encouraging posts from other users that are creating a truly „moral" support for their efforts (Hawn, C., 2009).

The basic electronic health records are comprised by all data generated in a healthcare system like clinical notes, test results, image studies etc. Beside this amount of data that are recorded from clinical trials and different stages of interventions it can be added also information provided by wearable devices, sensors and applications that can capture personal biological data, socio-economic data etc. The nowadays performances permit that having data from socio-economic and geographic variables it can be predicted the readmissions and all-cause mortality for patients with heart failure (Schoenhagen P., Mehta N., 2016).

Machine learning techniques are increasingly applied to large datasets used in healthcare for developing predictive models both for individuals and large mass of patients. On the other hand the large amount of data collected in major healthcare institutions requires specialized advanced software and team of professionals to be properly administrated. This systems allows practitioners to access different complex information regarding patients in real-time but still there is not the case to be implied in clinical decision making. This type of decisions are depending on complex human factors and individual preference of doctors thus on the short run, automated data collection and machine learning will be used mainly as support instruments in order to optimize patient-doctor relationship.

The percent of online healthcare reference sources has reached almost 80% of internet users. In the same time, the use of social media by doctors is still arguable.

In a research made by 725 adult internet users, authors find that the age of the patient predispose them to use social media websites, younger patient being more active, patient with

higher income have the same propensity to use social media and also patient that are far away from the doctor (McLawhorn A. S., et all., 2016). In 2013, about 35% of patients are using online information resources within health related blogs prior to go to the doctor office for a diagnosis.

Ask a doctor type online discussion platforms have gained more and more popularity. The communication here is initiated by the patients themselves and can be done on private or public channels. All forms of online communication with patients are rising concerns regarding liability issues, privacy, lack of compensation for online services and off course lack of time to be used by the doctors. For this reason the opinion is that social media channels should not be used to broadcast a specific medical advice. Doctors should limit to general advice and medical information supported by published evidence. Specific advices are to be given only on private channels of communication where the consent of the patient in using sensible information about his/her state is specifically given. The majority of professional medical associations like The American Medical Association, Federation of State Medical Boards, American Academy of Orthopedic Surgeons etc, were publishing guidelines for professionals' use of social media by doctors. The main concern is that every doctor should create and use a professional profile that is separate from a personal one and used accordingly when communication over this channels is done. This assures patients that medic-patient relation remains pure professional, and the professional profiles are more easily monitored for maintaining a reputation and brand image of the doctor.

Patient education can be an effective tool to improve the relationship between patients and doctors, and can diminish negative effects provided by health systems problems with difficult financial access. (Hu, Y., & Zhang, Z., 2015)

Low levels of awareness and motivation within the process of communication can be the principal barriers for online type communication between doctors and patients across mobile platforms. Another issue is represented by the distorted information inputs of patients. Inappropriate design of mobile platforms can be another issue for the low usability of these instruments and therefore a barrier for communication (Gârdan, D.A., Geangu, I. P., & Roşu, A. M., 2011).

Also design is made responsible for the optimization of the communication across mobile platforms through the continuous generation of information, raise the usability, reduce the interference of semantic noise, strengthen the value of information. (Nong, Y. L., Gong, M. S., 2019)

There is a risk/advantages balance regarding the use of social media for healthcare. Active listening, unbranded disease education and branded information are a couple of ways through which advantages can be created for the use of social media in healthcare. (Simon, F. L., et all., 2017)

The use of an entire range of mobile application for the self-management of a disease becomes more and more popular and studies have reported a major change in chronic patients' behavior regarding diabetes for individuals that are actually using mobile applications designed for diabetes condition (Rose, K. J., et all, 2019).

In recent years, the changes that have been made regarding the security and privacy options for the main social media networks have been very helpful for the evolution of social media within the healthcare field.

Social media channels and mobile software communication platforms can improve patient-doctor interaction, enhance patient motivation, drive awareness, facilitate ideas exchange, improve the context for health related questions, engage a mass of consumers etc. (George, D. R., Rovniak, L. S., Kraschnewski, J. L., 2013)

The close future challenge in order to improve patient-doctor relationship is to maintain the core elements of the communication between the two parties – speaking of creating interpersonal relationships, exchanging information for optimal treatment plans that incorporate professional and cultural values. (Shipper, E. S., et all., 2016)

Bellow we may find a synthesis of the implications that the E-health concept can have over the communication process between doctors and patients.

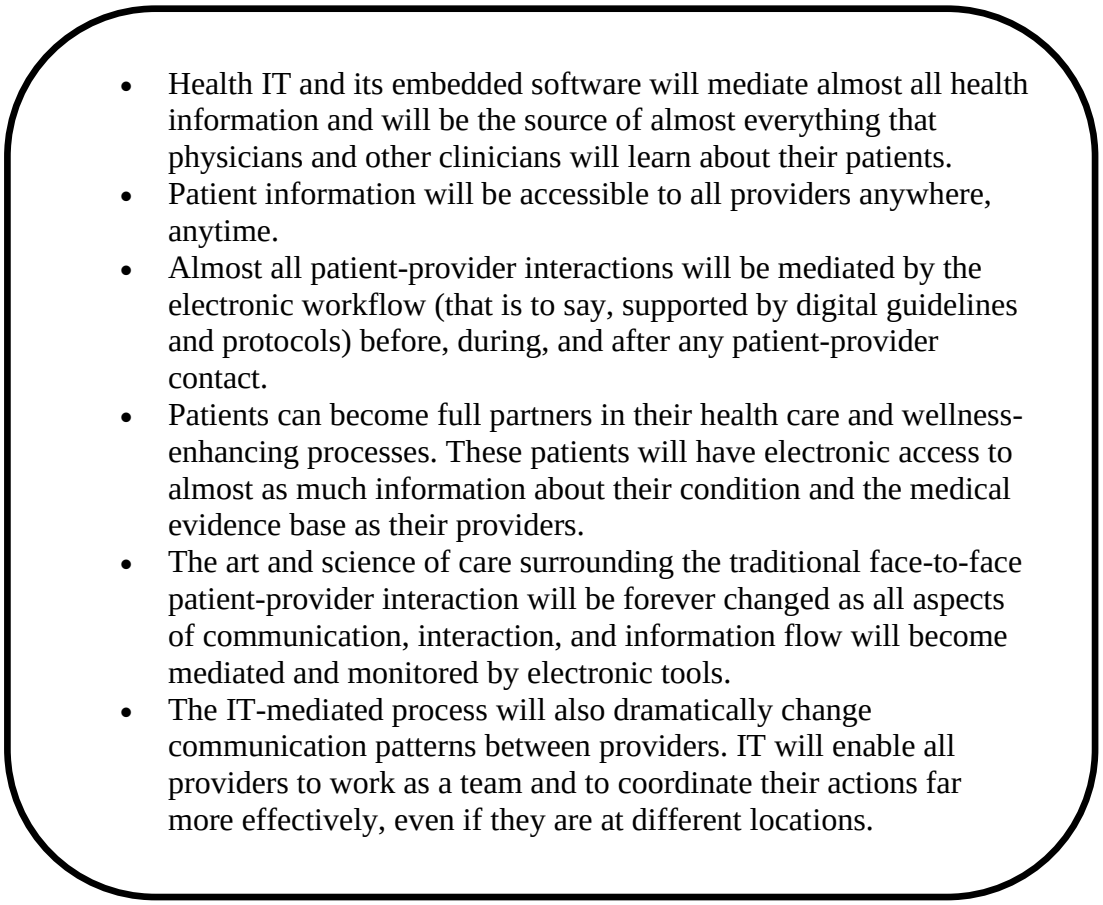

Fig no1. E-health concept impact upon doctor-patient relationship
Source: Shipper, E. S., Hardaway, J. C., Garvey, E. M., & Logghe, H. (2016). Talking through time: Trends in communication and the evolving patient-physician relationship. Bulletin of the American College of Surgeons, 101(8), 19-23

The continuous improvement of doctors – patients' relationship is at the center of a institutional strategy to raise the level of patients satisfaction. Using a patient centered communication can ensure higher levels of patient satisfaction, but the process of objectively measure it implies a different approach at the institutional level, based on different instruments of assessment like a Balanced Scorecard (Muntean, A. C., Putan, A., 2015).

Assessing the quality of healthcare services represents a complex and difficult task, because of the nature of the services and the specific consumption motivations underlying them (Gârdan I.P., Gârdan D.A., 2014). The quality of communication with medical staff itself represents a must for optimizing patient satisfaction and this task cannot be fully implemented without a creative and open approach promoted by healthcare institutions (Gârdan, D.A., Geangu, I. P., 2015).

New technologies can deliver practical instruments in order to help the improvement of healthcare services quality. Remote medical interventions, the use of robotics in high precision surgery, and most of all electronic means for exchanging medical and clinical information in real time are practical examples. On a qualitative research conducted on 46 patients and two different teams of surgeons implied a communication experiment using a WhatsApp group with more than 125 hours of communication and 1053 images used for the patients involved (Nardo, B., et al., 2016). The experiment shows the possibility to enhance communication between specialists and patients and the opportunity to facilitate clinical and nonclinical communications, enhance learning and ultimately improving healthcare services while the privacy of patient has been assured.

Still, other studies suggest that the use on a large scale of ICT instruments is perceived as being risky from the point of view of financial long term costs and privacy and security issues by the medical staff, while administrative staff and patients show more confidence in software applications and implementation of ICT instruments (Haluza, D., Jungwirth, D., 2018).

Despite the technological advancements, the way in which a healthcare system is structured can influence public perception on different aspects like patient safety or doctor-patient relationship. Thus, a study conducted in social platforms in China shows a great gap between public opinion and traditional survey information. Using content analysis of approximately 29 milion records from two social networks, researchers show that doctor-patient relationship has received the highest proportion of negative comments (74,9%) followed by service efficiency (59,5%) and nursing service (53%) (Hu, G., Han, X., Zhou, H., & Liu, Y., 2019).

Such results supports the idea that a better and more realistic strategy in the case of healthcare systems that are facing structural internal problems is to adopt e-health related instruments gradually, interplaying face to face patient-doctor communication with online type communication as a method to complement trust of patients and satisfaction (Jiang, S., 2019).

Undoubtedly, strong political will and long term commitment from apart authorities can lead to the development of digital health concept and fundamental change of patient-doctor relationship. It can transform an fragmented and provider-centric healthcare system into a more integrated and patient-centric healthcare system that emphasize the power of the patient to contribute to treatment decisions (Luk, C. Y., 2018).

Research design and methodology

In order to assess the influence of mobile media applications over the relationship between doctor and patient authors have been conducted in-depth interview type research. The research has been exploring perceptions of young parents regarding the usage of mobile media applications in relation with the ENT doctors and specific healthcare setting regarding their children state.

The research has the characteristics of an exploratory endeavor being a semi structured type interview as the authors need to analyze specific answers for specific topics. Among the main objectives of the research we can consider: knowing the degree of familiarity with media communication software like WhatsApp, Viber etc, determining the ENT conditions communication need expressed by the respondents, exploring the content of mobile media software communication, characterization of ENT doctor choice decision, determining the importance degree associated with doctor's recommended ENT drugs buying decision, measuring the mobile media communication software usage influence upon the ENT doctor choice and ENT drugs buying decision.

Participants were carefully selected from among young parents having children between 0-10 years of age with ENT affections and an active treatment scheme, based on a filter type questionnaire. There has been a final number of 58 interviews recorded audio-video and transcribed for analysis. The method used to analyze the data obtained from the research was the content type analysis and the thematic analysis on the transcripts. Content analysis propose a descriptive approach regarding the data coding process and the interpretation given to the counting of the codes

(Vaismoradi, M.,et all., 2013). Thematic analysis on the other hand offers the possibility to have a purely qualitative, detailed, and nuanced account of data obtained through the research. In the case of present research, because of the novelty of the approach within the native literature, we have used an inductive content analysis and thematic analysis, which is characterized by the fact that the coded categories are derived directly from the text data (Hashemnezhad, H. 2015).

Codes are referring to a particular element of obtained raw data that has a basic form and the capability to capture a meaningful idea regarding the object of the research (Braun, V., Clarke, V. , 2006). The themes are often broader than the codes, they are units of analysis that can be more „data driven" or „theory-driven" if they will depend respectively more on the data or will be chosen an approach.

Results and discussion

The transcript analyzed summarize the information according to the topics of research as follows:

A. The degree of familiarity with media communication software (eg: WhatsApp) – codes – frequently used, easy to use, period of use
B. Communication need related with ENT disorders - codes: other parents' communication, high frequency of communication, WhatsApp is a natural way to communicate with pediatric ENT specialist
C. The content of the communication carried out with the help of mobile media applications – codes: type of messages using WhatsApp, need to use WhatsApp as a search toll for a specific issue, type of files sent over WhatsApp,
D. Decision on the choice of pediatric ENT specialist – codes: time pressure upon decisional process related with choice of pediatric ENT specialist, the need for confirmation regarding the choice, emotional involvement on children ENT disorders, people testimonial for ENT pediatric specialist choice, influence of pediatrician specialist, common responsibility used,
E. Decision on ENT specific medicines purchases – codes: correlation between ENT pediatrician recommendations and friends recommendation, importance of doctor opinion, ENT drugs effects
F. Media mobile software influence on ENT pediatrician choice – codes: changed opinion about ENT pediatrician choice after software use, supplementary need to confirm the choice made regarding ENT pediatrician by friends
G. Media mobile software influence on ENT drugs purchase decision – codes: the need to change the purchase decision after software communication, renouncing or keeping to the ENT pediatrician recommendation after software communication
H. Opinions on the degree of influence of the software – codes: people general predisposition to be influenced by the communication with the software, low level of self-confidence predispose people to be influenced by the software communication, influence of a negative past experience with a ENT specialist

The content analysis shows that the degree of familiarity with the software is very high in terms of frequency of utilization that is daily for the majority of respondents, the easy way to be used, a positive perception about the capability of using the interface (design, functions etc.).

From the point of view of the communication need related with ENT disorders, the need to communicate with other parents is prevalent for the majority of respondents, also the frequency of communication is daily for almost one fifth of them. A very important result from the point of view of the research objectives is the fact that communication with a pediatric ENT specialist using the mobile media software is perceived as being a natural way to do it. Still, among respondents there are opinions that are considering the relationship with the ENT specialist as being more formal therefore the communication with the aid of the software is not present.

Regarding the content of the communication carried out with the help of mobile media applications it can be asses the need to obtain more information from friends using WhatsApp regarding a specific topic of discussion as being very present. The content itself refers to family matters and jokes followed by diverse information, holidays, news and medical issues altogether. Other categories of information are referring to school related problems using dedicated WhatsApp group and children related activities (games, events, etc) and for some of the respondents the range of files is pretty large – pictures, videos, text, links, pdf docs etc.

The most important result from the point of view of influence that mobile media software communication that can have upon medicines buying decision is centered on the idea that communicating with other users over WhatsApp doesn't influence the recommendation of ENT pediatrician regarding the medicines. More specifically, there is no need for a correlation between what is recommended by the pediatrician on one hand and by friends on another hand, the doctors opinion being the most endorsed. Also, more than that, respondents generally are not looking for alternative medicines for the prescribed ones.

In the same line, regarding the influence upon the choice of ENT specialist, communication with the application doesn't imply a change of the decision and there is no need for supplementary friends' confirmation regarding the choice made about ENT specialist. In the majority of cases the opinion of a general pediatrician specialist is more important in choosing an ENT specialist than the friends' opinion on the same matter.

Conclusion

The results are showing some interesting lines of analysis highlighted. The general perception of respondents regarding the easy use of the mobile media communication software shows the high degree of penetration of the mobile technology in the everyday use. The fact that the software is perceived as a natural way of communication shows an integration of this instrument in the usual consumer behavior. Also the fact that respondents feel natural to use the application in order to obtain more information upon a specific topic that is concerning their usual interests shows the tendency to integrate this channel among other means of communication and information gathering tools.

The special characteristics that this type of communication channel have, offers a wide range of influence upon decisional processes and choices made by individuals. Using the software does not only imply a faster and easier way of communication but participating into an active social group of users (friends, work colleagues etc). This means an influence from the social network itself, modulated by the relationship between members and their social assumed role. From this point of view the research revealed that the high degree of emotional implications regarding ENT disorders of children determine an atypical attitude concerning the choice of ENT specialist and/or the use of prescribed medicines. Despite the "group influence", respondents are showing a strong opinion about their personal choice made upon the ENT specialist and prevalence of more rational assessments (like the positive opinion of a general pediatrician). This attitude is consistent also regarding the choice upon ENT specific medicines – parents are using the treatment scheme given by the ENT pediatrician despite their own perceptions over a specific medicine or friend's opinion.

Respondents are aware of the formal level of the communication with the ENT pediatrician but the large majority of them does not have any problem to use the application in order to effectively communicate with the doctors. In fact during interviews, there has been a particular detail coming out: communication over the mobile application was seen as a more intimate way to contact the doctors and the respondents feel assured that they are not bothering them as they appear available online.

Taking into consideration the above we can stress out the changes that occurred lately at the level of healthcare services consumer behavior, as the new type of consumer from urban area is strongly connected with the mobile technology, active socially over the social networks and more

and more predispose to "borrow" the daily communication behavior to consumption behaviors and decisional processes regarding a wide range of products or services. The fact that decisions regarding the pediatric ENT specialist choice or treatment scheme are made under rational premises despite the potential influence of a social group opinions is showing a kind of maturity of the healthcare services consumers and a well-established position in relation to group norms. Future directions of research could establish if there is any connection between the degree of education and cultural level of consumers and their attitude that give more credit to the doctor opinion on medical issues. Quantitative type research combined with a qualitative approach can answer to this hypothesis –that is can medical literacy and level of general education predispose consumers to adopt a behavior that favors medical specialists, more than different social groups' norms or others consumers' experience? As a general conclusion we can consider that mobile media applications are shaping the future of communication offering the possibility for the users to interact in multiple ways. In particular the relationship between doctors and patients is optimized from the point of view of instant communication and amount of information transferred as needed (prescriptions, diagnosis, practical advice and specific answers etc). As this type of channels becomes more and more safe and stable, the impact over healthcare services is more and more salient, with the possibility to be fully integrated into the communication strategy of the healthcare institutions themselves.

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