

# Patient's Perception about use of Personal Digital Assistants/ Smart Phones by Physiotherapists

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## ABSTRACT

**Background:** Mobile phone is the need of present era in almost all fields of life. The demand of mobile phone has been increased thousand times because of emergence of smartphone. A smartphone works efficiently that it replaced computer systems and much more.

**Methodology:** This study was a cross-sectional survey. It was completed in 4 months of duration. Data was collected from Public and private clinical setups having facility of outdoor physiotherapy services. Data was collected from physiotherapy patients. Both male and female physiotherapy patients aged between 15 to 70 were included in this study. Patients with cognitive impairments and not willing to participate or signing a consent were excluded from this study. Nonprobability Convenient sampling technique was used. The questionnaire has been adopted from previous literature. (11) Data was analyzed using Statistical Package for Social Sciences (SPSS 20.0). Data was analyzed in way that Numbers and percentages was calculated for demographics. Mean, standard deviation was calculated for total scores and continuous variables.

**Results:** The result shows that 38.7% of the participants were male and 61.3% of the participants were females. The result shows education of the participants as 11.3% under metric, 10.7 % metric, 28.7% intermediate, 34% Bachelors, 12% Masters and 3.3% higher respectively. Moreover, the results of current study shows that 14.7% said no, 16% said don't know and 69.3% said yes about knowledge of performance of your doctor on this device: Information look up. The result shows that 19.3% said no, 14% said don't know and 66.7% said yes about knowledge of performance of your doctor on this device: Look up information about how to treat an illness.

**Conclusion:** There found a moderate to high level of positive perception regarding use of personal digital assistants/ smart phones by physiotherapists. Furthermore, there found a direct correlation between knowledge and perception of smart devices i.e., higher knowledge, more positive the perception found.

**Keywords:** Patient's Perception, Physiotherapy Patients, Personal Digital Assistants, Smart Phones.

## INTRODUCTION

Mobile phone is the need of present era in almost all fields of life. The demand of mobile phone has been increased thousand times because of emergence of smartphone. A smartphone works efficiently that it replaced computer systems and much more. In a similar way the use of mobile phone in medical health is incredible. Mobile health also known as m health include monitoring devices for patients, PDA- based and smartphones. (1) However, the most frequently used is smartphone. It is clear from the fact that according to a record survey of a hospital in 2010 the medical record using electronic devices such as mobiles has increased 200 time more than that of the PDA-based.

Many hospitals show similar results regarding development of EMR system in 2004. As PDA perform many clinical functions but not it is considered as old one.(2) because of the number of incredible functions of smartphones, it is the most valuable device in m-health.(3, 4). Functions of smartphones include its network connectivity as well as its vast connection on social media and much more. Due to increased demand of smartphones in medical health it is now thought to be future of health. Many authors wrote smartphone as most important need of medical health in future in many journals. Now considering this statement the point to ponder is which things of medicines can be performed using mobile phones. How and in What ways smartphone can fulfill our health needs. How we can say that future of medical health is in this little device known as mobile phone (5).

According to a survey percentage of adults using smartphones has been went high and high for past few years. More than 60% of adults of America owned their mobile phones and more than 60% of them seek health information using their phones. Health and fitness apps become more than double in recent years. Although there are only 17% of apps regarding health and fitness apps at apple store still these apps are used and

their demand is increasing. Despite of the fact that trend of m-health market is increasing with the time and is still in progress but we cannot deny the fact that m-health market still needs a lot of progress and it is considered to be at its first step. Apps including in m-health are daily workout apps, precautions and symptoms related diseases, apps of medication and drugs and a number of apps regarding healthcare department. Smartphones are rarely used in communication purposes between patients and doctors. There is still a little percentage of community seeking personal health assistance from mobile phones.(6)

World is expecting much more progress of m-health in future no matters that now a days m-health is at its first step. The reasons behind high expectations include ease of using smartphone, high power of connectivity, cost and its smartness. All these factors make people to expect high about smartphones to play a significant role in health care profession in coming years. Health care department is facing a number of issues regarding patient care management. It is well known that physicians cannot be available at clinic all the time. The time table of physicians is much more tough to visits wards to round operation theatre and then to attend the patient. In present era HIT system is working well but its efficiency does not meet the demands of the patients as they want to discuss their present treatment, speed of their improvement, next treatment goals, discharge plans and many other. The gap between patients' needs and physicians' availability cannot be filled with PC-based HIT. Many patients now consider it convenient to use mobiles and tablets to search and get information about their present complaints. Physicians also started to recommend communication with their patients through m-health and this will provide more efficient ways of patient care management. The mobility issue which is affecting the efficiency of current HIT system will be resolved through m-care. Patients' requirement of getting data and information will be fulfilled.

**METHODOLOGY**

This study was a cross-sectional survey. It was completed in 4 months of duration. Data was collected from Public and private clinical setups having facility of outdoor physiotherapy services. Data was collected from physiotherapy patients. Both male and female physiotherapy patients aged between 15 to 70 were included in this study. Patients with cognitive impairments and not willing to participate or signing a consent were excluded from this study. Sample size was 323 calculated by using epitool. Questionnaire was used as data collection tool. It has been comprised of three parts, demographics, knowledge regarding benefits of smartphones in health care, opinions regarding use of smartphones. The questionnaire has been adopted from previous literature.(7)

Data was collected as hands out questionnaire. Public and private settings was visited to screen patients falling in eligibility criteria. A Punjabi and Urdu interpreter was taken along for help explaining questions to patients and collecting responses. The patient's information was concealed and was used only for research related processing without disclosing the personal identity. Data was analyzed using Statistical Package for Social Sciences (SPSS 20.0). Chi-square was applied to see any association between demographics and correlation between knowledge score and score of perception elements.

**RESULTS**

Table 1: Gender of the participant

	Numbers	Percent	Percent	Cumulative Percent
Male	58	38.7	38.7	38.7
Female	92	61.3	61.3	100.0
Total	150	100.0	100.0	

Above table shows that 38.7% of the participants were male and 61.3% of the participants were females.

Table 2: Education of the participant

	Numbers	Percent	Percent	Cumulative Percent
Under matric	17	11.3	11.3	11.3
Matric	16	10.7	10.7	22.0
Intermediate	43	28.7	28.7	50.7
Bachelors	51	34.0	34.0	84.7
Masters	18	12.0	12.0	96.7
Higher	5	3.3	3.3	100.0
Total	150	100.0	100.0	

The result shows education of the participants as 11.3% under metric, 10.7 % metric, 28.7% intermediate, 34% Bachelors, 12% Masters and 3.3% higher respectively.

Table 3: Knowledge items about performance of your doctor on this device: Information look up.

	Numbers	Percent	Percent	Cumulative Percent
No	22	14.7	14.7	14.7
Don't Know	24	16.0	16.0	30.7
Yes	104	69.3	69.3	100.0
Total	150	100.0	100.0	

The result shows that 14.7% said no, 16% said don't know and 69.3% said yes about knowledge of performance of your doctor on this device: Information look up.

Table 4: Knowledge items about performance of your doctor on this device: Look up information about how to treat an illness.

	Numbers	Percent	Percent	Cumulative Percent
No	29	19.3	19.3	19.3
Don't Know	21	14.0	14.0	33.3
Yes	100	66.7	66.7	100.0
Total	150	100.0	100.0	

The result shows that 19.3% said no, 14% said don't know and 66.7% said yes about knowledge of performance of your

doctor on this device: Look up information about how to treat an illness.

Table 5: Perception items: Using a PDA/Smartphone gives my doctor more time to talk to me

	Numbers	Percent	Percent	Cumulative Percent
strongly disagree	3	2.0	2.0	2.0
Disagree	11	7.3	7.3	9.3
Weakly disagree	26	17.3	17.3	26.7
Not confirmed	40	26.7	26.7	53.3
weakly agree	39	26.0	26.0	79.3
Agree	26	17.3	17.3	96.7
Strongly Agree	5	3.3	3.3	100.0
Total	150	100.0	100.0	

The result shows 2.0% are strongly agree, 7.3% were disagree, 17.3% were weakly disagree, 26.7% were not confirmed, 17.3% were weakly agree, 3.3% were agree and 1.3% were strongly agree about perception item: Using a PDA/Smartphone gives my doctor more time to talk to me

**DISCUSSION**

Results of the current study showed that majority of the participants were females. As, females were more willing to participate in the study and showed greater interest as compared to the males. Also, the percentage of females visiting to data collection site was higher than that of the males. Results of education of the participants' showed that majority of the participants had done bachelor's degree. As current study was performed in urban area so the majority of people living in urban areas are educated. However, the results of some studies had shown that majority of the participants had done masters and higher degrees. This would be because of higher literacy rate of those countries and better opportunities of higher studies. Results about observing the doctor performance on digital device about looking up the drugs showed that majority of the participants said yes. This would be because of more concern of doctors about the confirmation of drugs now a days.

Moreover, doctors better understand the effects of drugs by giving a thorough reading on this device. Results of some other studies showed the same result for this concern as doctors are more concerned about the confirmation of drugs. Results about the performance of doctor on this device about looking up information about how to treat an illness shows that majority of the participants said yes this would be because of more and more researches about treating an illness. There were number of different methods of treating a disease and new studies continuously changing the methods so doctors were always taking a look on mobile to find the recent method of treating any type of specific illness. Results about performance of the doctor on this device about looking up for patients' information showed majority of the patients said yes this would be because of recent methods of online data record of the patients. Similarly, the results of current study about the performance of doctor on this device about looking up the information of patient's medical insurance showed that majority of the patients said no. This would be because of the reason that checking about any insurance is considered to be the duty of other staff of the hospital such as receptionist. However, the results of some studies whose data collection site was any private clinic of doctor were opposite as in that case doctor would be concerned of the medical insurance of the patients. (8-15)

As far as the results of performance of the doctor on this about writing a reminder note is concerned it showed that majority of the participants did not know about this. This would be due to the reason that doctor may not show his activity of writing a note or any method he uses for keeping himself aware about that patient as it may be the doctor's personal issue. Current study showed the results of doctor performance on this device about making sure the

working of drugs well was that majority of the participants said yes. Results of many other studies were similar as it would be because of increased concern of doctors about the confirmation of better results of the drugs. Majority of the participants agree upon this that the doctors should look up medical information on internet. (16-26)

Results of the current study showed participants were weakly agree on that doctor should pay more attention patients than smart phones. Also, participants were not sure about that doctor should talk to patients more than using phone. On the other hand, results showed that participants were also agree upon this that their doctor should consult newest technology for treating him. Results of many studies about this concern were similar to the results of current study. Also, majority of the participants was agreed that use of smart phones was very much useful for the doctor as he or she could confirm any information at any time by just pressing the button and it will help them to become good clinicians and more confirmation will be beneficial for the wellbeing of the patients. Also, the results of the current study clearly showed that majority of the participants was comfortable with the using of smart phones by his doctor it may be due to the awareness among people that it is for the wellbeing of the patients.

## CONCLUSION

The current study found a moderate to high level of positive perception regarding use of personal digital assistants/ smart phones by physiotherapists. Furthermore, current study found a direct correlation between knowledge and perception of smart devices i.e., higher knowledge, more positive the perception found.

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