

A Survey Research of the Exposure and attitude about health care management apps or Digital Health Platform (DHC) in South Indian population.

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Submitted: 10-10-2022

Accepted: 21-10-2022

ABSTRACT

Digital health is the use of communication and information technology in healthcare. Digital health platform (DHP) is currently accepted and widely being used across the world. A survey of a population-based sample of south Indian adults was conducted in a tertiary care hospital to measure their exposure and attitudes about health care management apps . A questionnaires survey was conducted between May and June of 2019. The influence of different consent models on willingness to share data was examined by randomizing participants. Of 100 people, invited to take the survey, findings indicated that most respondents (77%) had not used the healthcare apps,(15%) were not aware of the apps and 1% said they did not find it useful. Only (7%) of population were aware and had used health apps.

Keywords: DHP, Health apps, Digital health, Population survey

I. INTRODUCTION

Digital health is the use of communication and information technology in healthcare. Digital health platform (DHP) technologies enable a new architectural approach to rapidly deploying digital capabilities using modern cloud services for health concerns . Apps are software programs that have been developed to run on a computer or mobile device to accomplish a specific purpose.[1] Any app to offer prevention, detection , adherence , prediction and health improvement can be termed under DHP. Various chronic morbidities and co morbidities such as B.P , Blood sugar , Asthma, COPD , Epileptic seizures etc. can be regularly monitored by these health care technology applications and an alert is sent to the doctor as well as patients and his relatives in case of alarming situation . All concerned parties are notified about the patients health status on daily basis. These health care technologies are a boon both for the patients and physicians as it saves time, energy and money spent for during personal

visits to Hospitals. A patient is able to monitor his health status and adhere to Doctors recommendations through reminders on the phone. A health care app is any platform that integrates patient , provider and payer to get qualitative and quantitative vitals data of out patient to doctor at regular intervals to determine the right course of action for each unique patient Patient and his family has little knowledge on Diet, BMI, Stress & medication impact on Endocrine Illness. It is the use of communication and information technology in healthcare that helps manage illnesses and health hazards to promote wellness

COVID-19, has accelerated the growth of digital health services even further. The platform is designed by identifying common care issues including gaps in care, comorbidities and behavioral issues. These platforms are built to provide personalized solutions, patient reported outcomes, lifestyle management and enhanced effectiveness of the overall program concurrently, mobile devices have been integrated into health care practice due to the availability and quality of medical apps. These mobile medical apps offer increased access to clinical references and point-of-care tools.[2]

A few examples of digital health include: [3]

- AI-enabled health devices
- Mobile health apps
- Telemedicine
- Patient portals and Block chain electronic health

Applications of Health Care management Apps [4]

Health care professionals use medical devices and apps for many purposes, most of which can be grouped under five broad categories: administration, health record maintenance and access, communications and consulting, reference and information gathering, and medical education. Various sectors of health care management

platforms used by Physicians are are in fields of Information Management, Time Management, Health Record Maintenance and Access, Communications and Consulting, Reference and Information Gathering, Clinical Decision-Making, Patient Monitoring, Medical Education and Training.

Benefits for Health care apps for Patients

- Alerts on Medication, Vitals & Appointments
- Adherence alerts to Distant Family member
- Diet Recommendations
- Automatic Emergency
- Sr Citizen Services
- Patient’s Alerts and Escalation to doctor
- Review of vitals remotely
- Appointments & Emergency
- Interface with Device, Drug, Sale Interface

Information Management	
Evernote	Note-taking and organization
Notability	Note-taking and organization
iAnnotate	PDF viewer
GoodReader	PDF viewer
Box	Cloud storage and file sharing
Dropbox	Cloud storage and file sharing
Google Drive	Cloud storage and file sharing
Communication and Consulting	
Doximity	Social networking site for MDs
Reference and Information Gathering	
Epocrates	Drug and medical reference
Dynamed	Drug and medical reference
Skyscape/Omnio	Drug and medical reference
Micromedex	Drug reference
Dynamed	Medical reference
UpToDate	Medical reference
Medscape	Medical reference
Johns Hopkins Antibiotic Guide	Medical reference
Sanford Guide to Antimicrobial Therapy	Medical reference
Medpage Today	Medical news
Patient Management and Monitoring	
Diagnosaurus	Differential diagnosis
Pocket Lab Values	Laboratory reference
Lab Pro Values	Laboratory reference
Archimedes	Medical calculator
MedCalc	Medical calculator
Mediquations	Medical calculator
Calculate	Medical calculator
AHRQ ePSS	Screening and prevention tool
Medical Education and Training	
MedPage Today	Continuing medical education
QuantiaMD	Continuing medical education

Patients now seek medical care flexibly, and online medical services are in vogue across the world. The introduction of mobile computing devices (personal digital assistants [PDAs], followed by smartphones and tablet computers) is widely used in Medicine nowadays [6].

Objectives

A survey research of a population-based sample of south Indian adults was conducted in a tertiary care hospital to measure their exposure and attitudes about health care management apps

Design

A Cross-sectional survey research [7] was carried out using simple Random sampling approach as a quantitative method to collect data. This approach was used to draw a representative sample of potential participants. A standardized quantitative and qualitative questionnaire was

designed to carry out the survey in month of May and June of 2021. Survey questions were carefully structured and a mixed method approach was used to intergrate qualitative and quantitative findings . Random sampling allowed the results to be generalized to the larger population and statistical analysis was performed. The influence of different consent models was given on willingness to share data was examined by randomizing participants. The data collected from the survey was statistically analyzed to draw research conclusions.

II. RESULTS

Of 100 people invited to take the survey, Most respondents (77%) had not used the healthcare apps,(15%) were not aware of the apps and 1% said they did not find it useful. Only (7%) of population were aware and had used health apps.

Figures

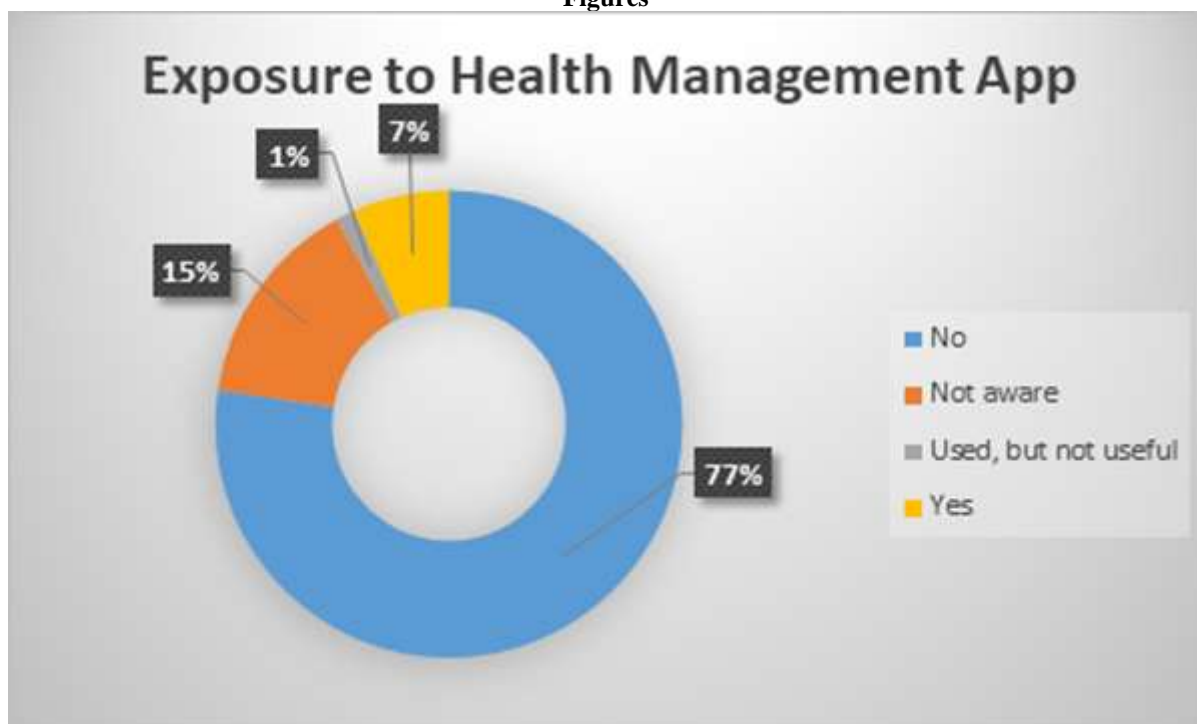


Fig 1 : Exposure to Health Management App

Data highlighted that most respondents (77%) had not used the healthcare apps,(15%) were not aware of the apps and(1%) said they did not find it useful. Only (7%) of population were aware and had used health apps .

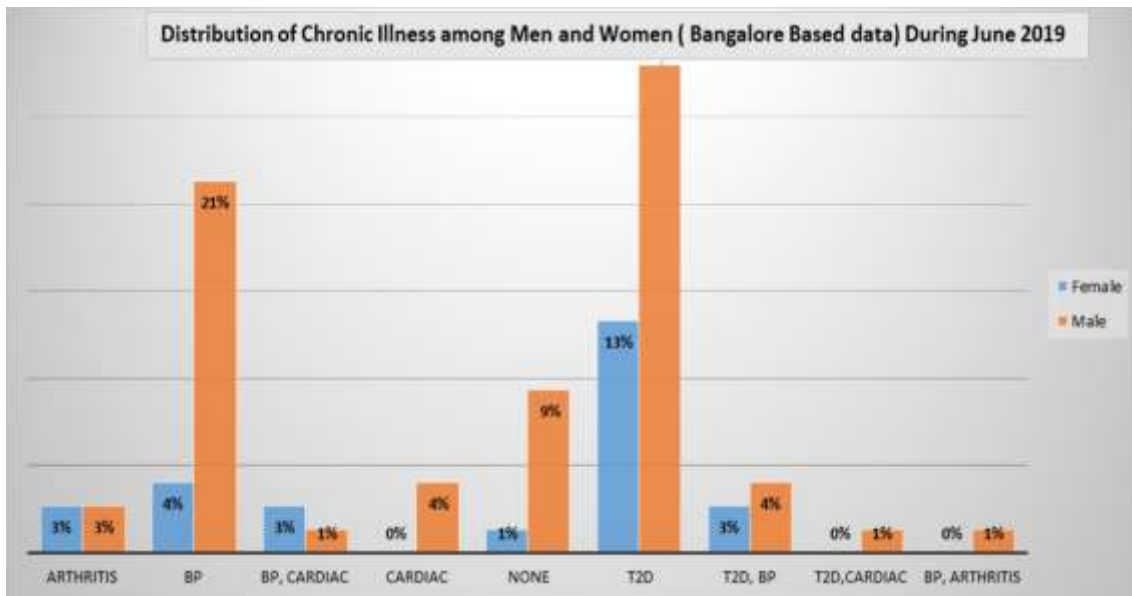


Fig 2: Distribution of Chronic Illness among Men and Women (Bangalore based data) June 2019

Based on the data it has been reported the Blood Pressure was the most common Chronic Illness in Men(21%) as compared to women(4%)

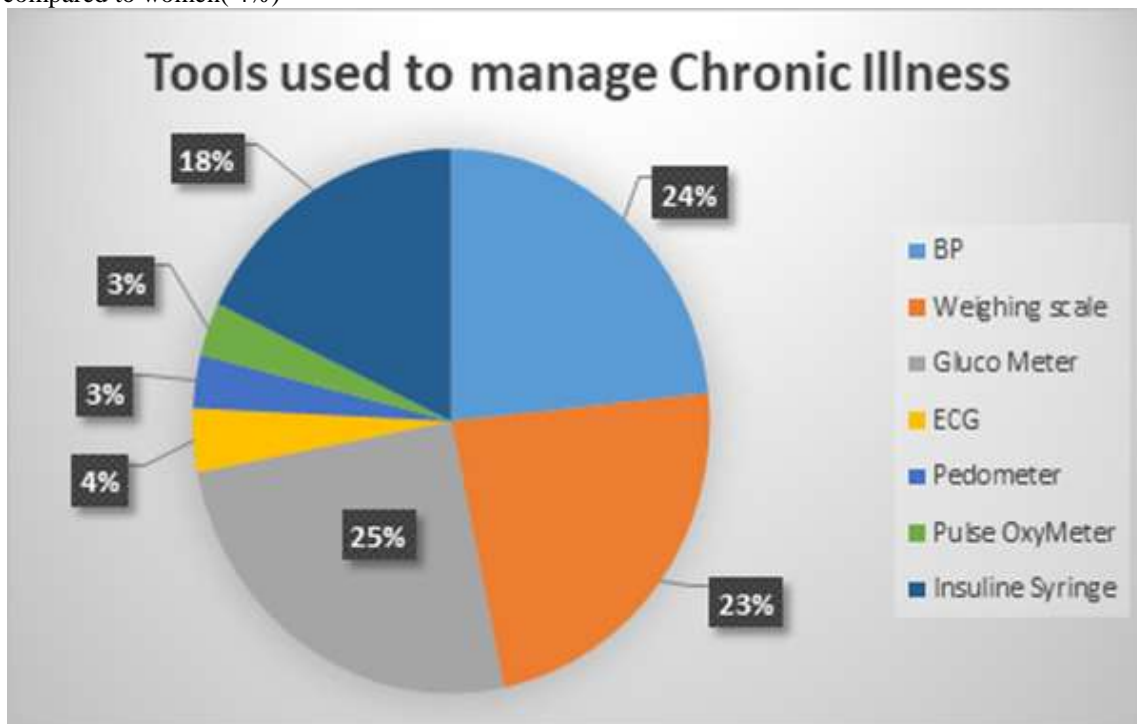


Fig 3: Tools to manage Chronic Illness

BP apparatus (24%), Glucometer(25%) and weighing scale(23%) are most commonly used Tools to manage Chronic illness at home. (18%) are using Pedometer, (3%) are using pulse oxy meter and (3%) insulin syringe at home.

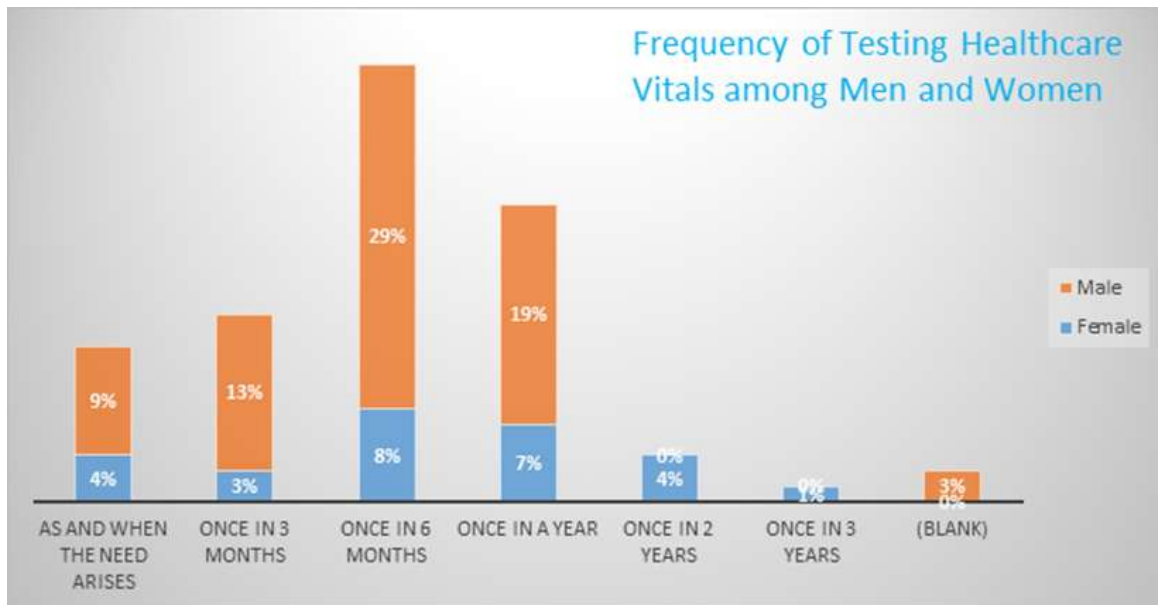


Fig 4: Frequency of testing healthcare vitals among Men and Women .

It was found that frequency of testing health care Vitals among men was more prevalent (29%) in Men as compared to Women (7%) once in six months and (19 %) males and (7 %) females once in a year.

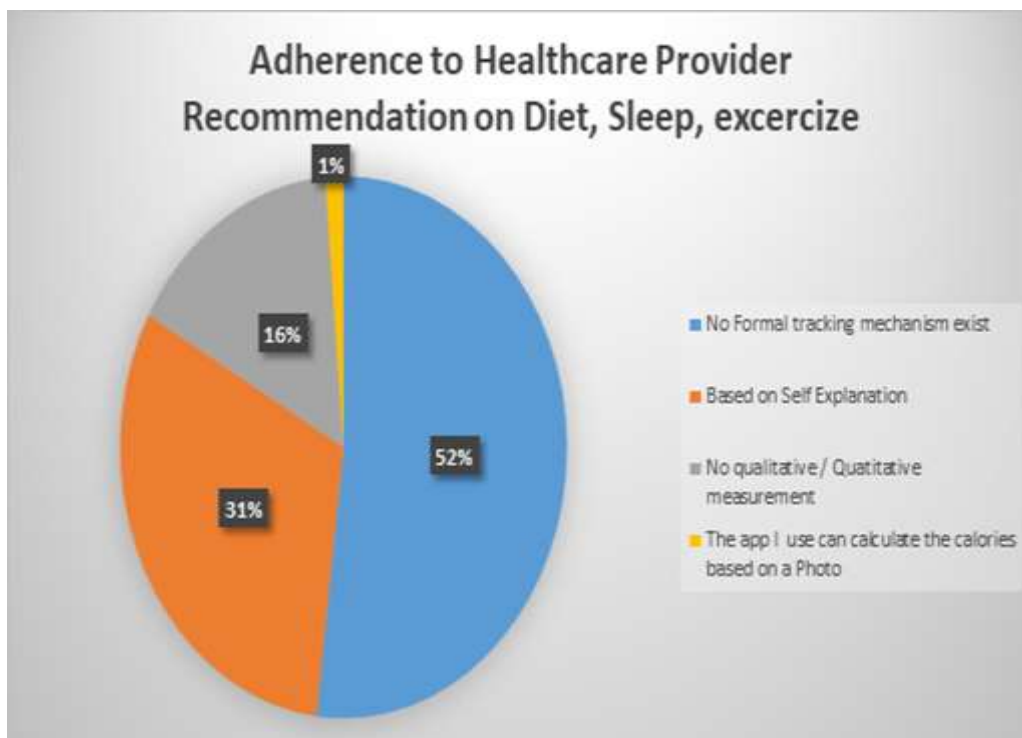


Fig 5: Adherence to Healthcare Provider , Recommendation on Diet , Sleep and Exercise
 52% of the population did not have knowledge that a Formal tracking mechanism exists and 31% believed in self explanation ,(16%) did not know about qualitative and quantitative data .

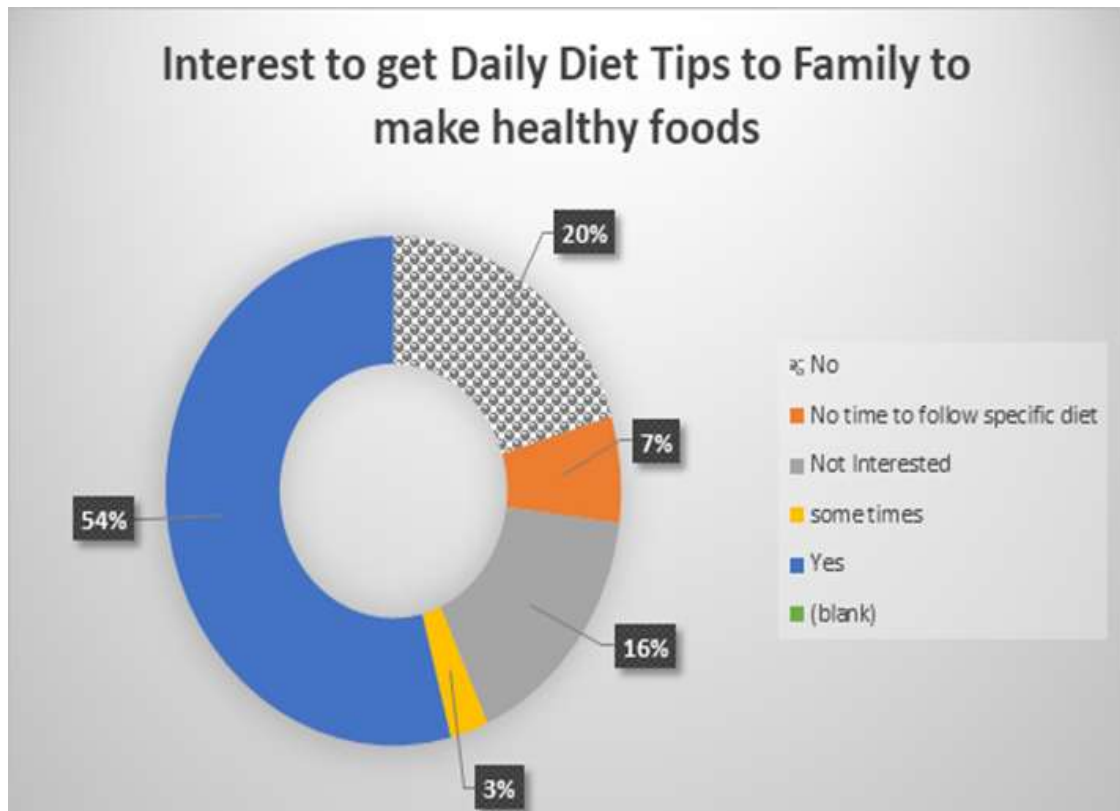


Fig 6: Interest to get Daily Diet tips to family to make healthy food .54% of respondents were interested in getting daily diet tips to make healthy food whereas 16% were not interested and 7% had no time to follow specific diet .

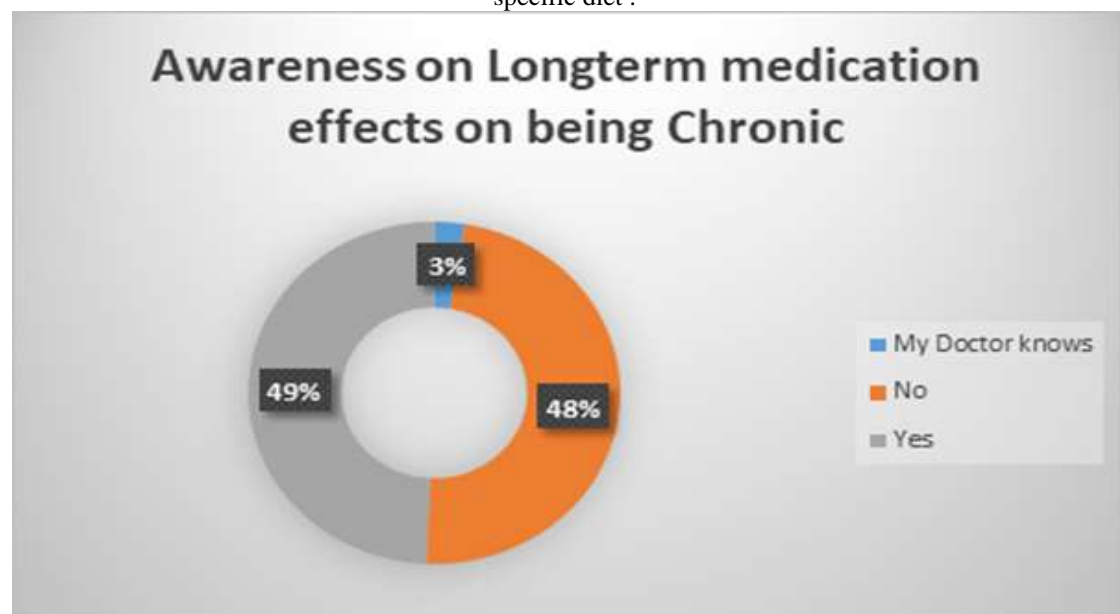


Fig 7: Awareness on long term medication effects on being Chronic . 49% of respondents were aware of the long term medication effects on being Chronic whereas 48% were not aware of the long term medication effects . 3% believed that the doctor only knows

III. RESULT

Exposure to Health Management App Data highlighted that most respondents (77%) had not used the healthcare apps,(15%) were not aware of the apps and(1%) said they did not find it useful. Only (7%) of population were aware and had used health apps (Fig 1)

Distribution of Chronic Illness among Men and Women (Bangalore based data) June 2021 Based on the data it has been reported the Blood Pressure was the most common Chronic Illness in Men(21%) as compared to women(4%)(Fig 2)

Tools to manage Chronic Illness It was found that BP apparatus (24%), Glucometer(25%) and weighing scale(23%) are most commonly used Tools to manage Chronic illness at home (18%)are using Pedometer ,(3%)are using pulse oxy meter and (3%) insulin syringe at home. (Fig 3):

Frequency of testing healthcare vitals among Men and Women It was found that frequency of testing health care Vitals among men was more prevalent (29%)in Men as compared to Women (7%) once in six months(Fig: 4):.

Adherence to Healthcare Provider , Recommendation on Diet , Sleep and Exercise 52% of the population did not have knowledge that a Formal medical tracking mechanism existed and 31% believed in self explanation ,(16%) did not know about qualitative and quantitative data . (Fig 5):

Interest to get Daily Diet tips to family to make healthy food .54% of respondents were interested in getting daily diet tips to make healthy food whereas 16% were not interested and 7% had no time to follow specific diet (Fig 6):

Awareness on long term medication effects on being Chronic . 49% of respondents were aware of the long term medication effects on being Chronic whereas 48% were not aware of the long term medication effects . 3%believed that the doctor knows (Fig 7)

IV. CONCLUSION

Data highlighted that most respondents (77%) had not used the healthcare apps,(15%) were not aware of the apps and(1%) said they did not find it useful. Only (7%) of population were aware and had used health apps .Fig1 52%of the population did not have knowledge that a Formal tracking mechanism exists and 31% believed in self explanation ,(16%) did not know about qualitative and quantitative data This cross-sectional survey was a pilot study and can be extrapolated to a large cohort study, across most demographic groups..

Digital health platform (DHP) technologies enable a new architectural approach to rapidly deploying digital capabilities using modern cloud services for health concerns . Various chronic morbidities and co morbidities such as B.P , Blood sugar , Asthma, COPD , Epileptic seizures etc. can be regularly monitored with accuracy .Accurate and timely information or alert can help save lives by the use of these health care technology applications. All concerned parties can be notified about the patients health status.These health care technologies are a boon both for the patients and physicians as it saves time , energy and money spent on health care .Despite the benefits the health care apps offer , there is little knowledge and reluctance in the use of these health care monitoring systems. More awareness needs to be implemented about the benefits of these apps to people who are intimidated or less inclined to use new technologies [8] .Older generation and many others need support and guidance in this field which can help them in their unmet needs . Volunteers who are more technology savvy need to come forward and support in creating awareness, educating and teaching the use of many of these health care platforms for the benefit of mankind.

Footnotes

Disclosure: The author reports that she has no commercial or financial relationships in regard to this article.

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