

Diabetes Management using Smart Phone

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ABSTRACT

The amount of information people with diabetes need to keep track of their diabetes can become overwhelming. Patients who want more advice from their healthcare providers are often frustrated with the lack of contact between hospital visits. However, recent advances in “mobile health” the use of mobile technology such as smart phones in healthcare – have opened up exciting new ways to keep track and stay connected. Mobile technology was used to remind them to test their blood glucose levels in the morning. They were then asked to text that value back to nurses, who reviewed the information on a daily basis. New sensors measure body function for brief periods of time without active recording efforts by the user. These include continuous glucose monitors and physical activity monitors. The wireless features embedded in the devices mean all-around 24/7 connectivity. The use of mobile health technology in medicine is not new. Intensive care physicians have long been able to track patient’s vital signs far away from a patient’s bed. This type of technology is finally coming to patients with diabetes.

Keywords

Mobile Technology, Diabetes, Continuous glucose monitor, Smartphone

1. INTRODUCTION

Diabetes could be a serious complicated condition which may have an effect on the whole body. It’s delineated as a ‘chronic’ condition, which means that it lasts a protracted time, usually for someone’s whole life. Polygenic disease needs daily self care and if complications develop, quality of life is reduced. There square measure differing kinds of diabetes; all kinds square measure complicated and heavy. The [2] main forms of polygenic disease square measure kind one and sort 2.

2. TYPES OF DIABETES

There square measure 2 main forms of polygenic disease; there’s conjointly a stage before diabetes known as pre-diabetes. Pre-diabetes, conjointly referred to as impaired aldohexose tolerance could be a condition wherever your glucose level elevates to a level more than the conventional vary for many individuals, however remains low enough to not be thought of polygenic disease. people that have pre-diabetes square measure in danger of developing kind two polygenic disease later in life if they are

doing not monitor their condition fastidiously. People that are diagnosed with pre-diabetes will facilitate keep from getting to a full blown designation of kind two polygenic disease by observation their weight, elbow grease and feeding the correct foods. The primary main sort of polygenic disease is kind one polygenic disease, associate disease wherever the duct gland

produces terribly little internal secretion or no internal secretion in any respect. People that get kind one polygenic disease square measure sometimes below the age of twenty, sometimes presenting it once the person could be a kid or young adult. Some scientists believe that kind one polygenic disease could be a genetic condition wherever the cells of the duct gland square measure attacked so stop functioning. Others feel the illness could also be caused by an outbreak that prompt the system to start assaultive the duct gland. as a result of the duct gland cells that turn out internal secretion square measure destroyed, people that develop kind one diabetes polygenic disorder polygenic illness can have the disease for all times and can want treatment within the type of internal secretion shots or associate internal secretion pump. Additionally to internal secretion medical care, exercise and careful attention to diet is important to stop fluctuations of glucose. Two polygenic diseases are generally found in people that square measure overweight as they develop. Though it’s generally known as adult onset polygenic disease, in some country, like the you, additional kids and young adult’s square measure being diagnosed with kind two polygenic disease as a result of they’re not obtaining enough activity. The distinction between type one and sort two polygenic diseases is that with kind two polygenic disease the duct gland doesn’t turn out enough internal secretion or the body doesn’t properly use the it. Type two diabetes polygenic disorder is usually thought of a life-style disease as a result of its commonly triggered by living a reasonably inactive life, being overweight and not taking part in exercise. However, age could be an issue still as heredity. If a parent or relation develops kind two polygenic diseases later in life, an individual has bigger possibilities to obtaining kind two polygenic disease still.

3. A COMPARISON AND CONTRAST OF HYPERTENSION AND DIABETES

Hypertension and polygenic disorder square measure 2 doubtless deadly diseases. High blood pressure could be a condition within which vital sign is persistently elevated to above a hundred and forty over ninety in adults. The primary range represents the pressure once the guts contracts. This pressure is named pulse vital sign, and it’s commonly around one hundred twenty. The second range represents the pressure once the guts relax, that is named blood pressure, and it’s commonly around eighty. On the opposite hand, polygenic disorder could be a disorder that results from Associate in nursing elevation within the level of blood sugar or once the body cannot manufacture endocrine. First, high blood pressure and polygenic disorder will be compared and contrasted in keeping with their causes. There square measure 2 forms of high blood pressure: primary hypertension and high blood pressure. Primary high blood pressure is high vital sign that no

cause will be found, however high blood pressure has definite causes. The guts pumps blood through the body's arteries is to any or all elements of the body. Once the blood vessels become slim, the flow of blood through them are tougher, therefore the blood can exert the wall vessels and increase the pressure in them. Similarly, polygenic disorder has 2 sorts. Kind one polygenic disorder is one kind that happens owing to the failure of creating the internal secretion known as endocrine by the exocrine gland. Different the opposite } kind is kind two polygenic disorders that are attributable to failure of victimization endocrine by the body; in other words, polygenic disorder happens once the body cannot manufacture or use endocrine.

The body uses endocrine to convert sugar, starch, and different food into energy which will be employed by the body in movement or different functions in lifestyle. This internal secretion is made by cells known as beta cells. These cells exist within the exocrine gland. Once these cells square measure broken, the body cannot manufacture endocrine. The foremost common reason for damaging beta cells is that cells of system attack the beta cells rather than germs. This deficiency of endocrine results in a rise within the level of blood sugar, thus polygenic disorder happens.

Furthermore, there square measure environmental and genetic factors that play a task in inflicting high blood pressure and polygenic disorder. First, environmental factors square measure fleshiness, smoking, and lack of exercise. These factors have an effect on the body and it's perform and result in elevation of the vital sign and have an effect on the assembly of hormones. Once someone becomes corpulent, s/he can have additional fat tissue within the body. The guts pumps blood through the body is to produce every spare O and nutrition. In Associate in nursing corpulent person, the blood contains excessive fats. That creates the blood thicker, heart muscles won't able to agree to this extra load and pump less powerfully, and this thick blood can exert additional pressure on the walls of vessels. This can result in high blood pressure. Associate in nursing corpulent person consumes fat and carbohydrates in excess; as a result, the endocrine made are skimpy for its conversion, then, the extent of blood sugar can increase, and polygenic disorder can occur. Smoking is another environmental issue of high blood pressure and polygenic disorder. The phototoxic in tobacco causes narrowing within the blood vessels and results in high vital sign. In polygenic disorder, phototoxic will increase the extent of endocrine within the blood and will increase endocrine resistance. The sex and also the case history of patient's square measure the genetic factors for folks that have others in their family with polygenic disorder or high blood pressure. Also, there square measure variations and similarities between the 2 diseases in keeping with their symptoms. Hypertensive and diabetic patients share some symptoms. These symptoms square measure fatigue and vision changes; but, they take issue in several symptoms. The symptoms of high blood pressure square are headache, confusion, vomiting, and hurting. However, high blood pressure typically has no symptoms that are why it's known as the silent killer; in distinction, the symptoms of polygenic disorder square measure frequent evacuation, excessive thirst and hunger, uncommon weight loss, and irritability.

The third facet for comparison and distinction is complications. Each high blood pressure and polygenic disorder results in attack, stroke, urinary organ harm, and sightlessness. Once the vital sign becomes high, the guts can pump additional typically than traditional. It causes in

overload on the guts muscles, that aren't able to stand this overload. What is more, the muscles could weaken in order that their potency decreases; then, the guts is affected, and cardiopathy happens. High blood pressure could be a major risk issue for upset. Additionally to attack, high blood pressure results in stroke. High blood pressure produces stress on vas walls partially of the brain. This stress results in blockage of the blood vessels and makes a clot within the brain. This clot can stop blood from reaching a vicinity of the brain tissue. Once the tissue is stop from its provider of O for over 3 to four minutes, it begins to die; additionally, high vital sign will harm the tiny blood vessels within the kidneys. The broken vessels cannot filter poisons from the blood as they're purported to. Also, polygenic disorder results in attack. It begins with harm within the inner layer of the artery; then, the artery wall cells can build up plaque and will manufacture different substances that end in any build of plaque. This results in a clot within the arteries and stops the blood flow. If this clot happens within the heart arteries, it results in an attack, however if it happens within the brain arteries, it results in a stroke.

High blood pressure and polygenic disorder have dangerous effects in pregnant girls. Once a pregnant lady has high blood pressure, the blood provide can diminish to mother and baby. This deficiency can grow to be pre-eclampsia. Pre-eclampsia could be a condition that affects pregnant girls and causes swelling and will increase super molecule within the excretory product. The symptoms of pre-eclampsia are headache, spots before the eyes, heartburn, and swelling within the face and hands. It will decrease the baby's movement; additionally, the baby could have issues with growing and obtaining enough O, and also the baby could develop different complications. In distinction, once polygenic disorder happens throughout physiological condition, it's known as physiological state polygenic disorder. This kind of polygenic disorder develops throughout physiological condition attributable to secretion changes between weeks twenty four and twenty eight and disappears once a girl provides birth. Physiological state polygenic disorder will cause complications that have an effect on each mother and baby. Once the mother's body cannot convert aldohexose to energy, the blood sugar can increase and cross the placenta. The baby's body can manufacture endocrine to decrease the blood sugar level within the baby's body; then, endocrine can convert additional aldohexose to energy. This energy is over the baby's wants. The body can store this excess energy as fat; at the moment, fat baby or macrodome can occur. The baby can develop health issues like harm to her/his shoulders throughout birth, low blood sugar and better risk for respiratory issues. These babies have risk factors for fleshiness and kind two polygenic disorders. Physiological state polygenic disorder develops in concerning three % of all pregnant girls, and up to fifty % of ladies with physiological state polygenic disorder can develop permanent kind two polygenic disorder inside ten to fifteen years.

However, hypertensive and diabetic patients take issue in different some complications. Diabetic patients will develop many various feet issues. Polygenic disorder will result in nerve harm or reduction within the blood flow in feet, therefore the feet issues can occur. Additionally, polygenic disorder results in skin disease. This skin disease affects common fraction of individuals with polygenic disorder, and it will be thought of because the 1st sign that someone has polygenic disorder. What is more, diabetic pathology is another complication of polygenic disorder. Pathology is harm in peripheral nerves that connect the medulla spinalis to

muscles, skin, blood vessels, and different organs. On the opposite hand, brain harm and vas harm result from high blood pressure as a result of once the vital sign is high all the time, it'll result in a rise within the force on the vas walls and harm to the blood vessels.

Additionally to complications, polygenic disorder and high blood pressure will be compared and contrasted in keeping with treatment. The treatment of each high blood pressure and polygenic disorder includes 2 types: dynamical life-style and drugs. Hypertensive patients should modification their life-style. They need to eat food with low salt and fat; additionally, they need to stop smoking and overwhelming alcohol. They need to exercise to save lots of their health; what is more, the patient should take medication to scale back high vital sign or to avoid narrowing within the blood vessels. In distinction, polygenic disorder will be treated by a well diet that contains all basic necessities. They need to additionally exercise and thin to regulate the extent of aldohexose within the blood. Diabetic patients want medication that facilitates to spice up their natural endocrine or help the body use endocrine. Some adults with polygenic disorder want endocrine.

In conclusion, this paper compares and contrasts high blood pressure and polygenic disorder by their causes, symptoms, complications, and treatment. Once the blood vessels become slim, high blood pressure happens whereas the deficiency of endocrine leads to polygenic disorder. Fatigue and vision changes square measure common symptoms between these 2 diseases; but, there square measure several variations in symptoms between them. Additionally, high blood pressure is extremely very similar to polygenic disorder therein they each result in similar complications like attack and stroke. Finally, each high blood pressure and polygenic disorder will be treated by 2 methods: dynamical life-style and taking medications. Dynamical life-style includes a precise diet and weight loss. Every illness wants bound medications. The patients with hypertension high blood pressure cardiovascular illness or polygenic disorder should management their disease to avoid their dangerous complications and death.

4. AWARENESS AMONG PEOPLE

4.1 Objective

The study was done to seek out the amount of awareness on polygenic disease in Indian population and to spot factors that influenced the attention, together with presence of polygenic disease.

4.2 Research design and methods

In population aged ≥ 20 years details relating to awareness regarding polygenic disease in relation with physical activity, symptoms, prevention, causes, healthy and unhealthy diet, complications and measures to enhance health were collected employing a form. A high total score indicated smart information. Influence older, gender, instructional standing, occupation and presence of diabetic history were analyzed.

4.3 Results

Educational standing was low in girls. Pedagogy and skilled or government jobs were considerably related to higher awareness. Information relating to causes of polygenic disease, its bar and therefore the strategies to enhance health was considerably low among the overall population. Diabetic subjects had higher information regarding symptoms of polygenic disease and therefore the preventive aspects.

5. STATISTICAL ANALYSIS

Over thirty million have currently been diagnosed with polygenic disease in Republic of India. The emergency procedure (Crude prevalence rate) within the urban areas of Republic of India is assumed to be nine per cent. In rural areas, the occurrence is about 3% of the total population.[8]

In 2014, Sept. 11 of adults eighteen years and older had polygenic disease. In 2012 polygenic disease was the exact reason for one half million deaths. Over eightieth of polygenic disease deaths occur in middle-income and low-income countries.

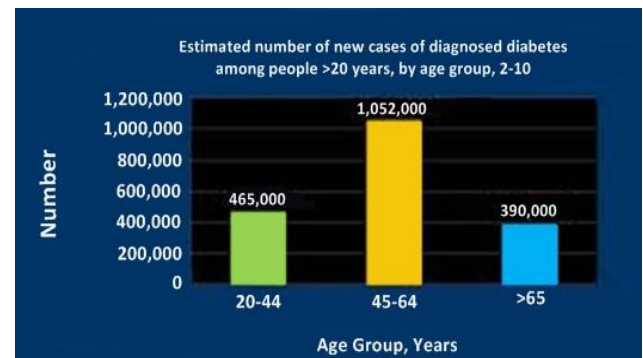


Figure 1: New Cases of Diagnosed Diabetes

Million individuals ages twenty or older were diagnosed with polygenic disease. This means that Republic of India truly has the very best range of diabetics of anybody country within the entire world. IGT (Impaired aldohexose Tolerance) is additionally a mounting drawback in Republic of India.[9]

The survey has been conducted of sample size 30 in nearby locality of Mumbai. The statistical analysis of this survey shows some results as follows.

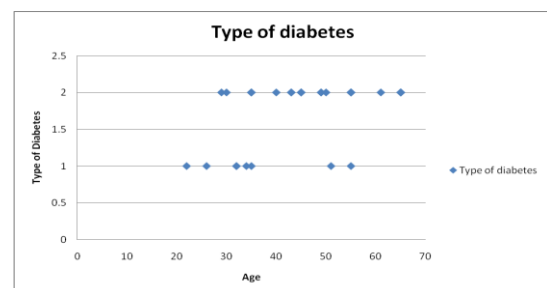


Figure 2: Relation between age and type of Diabetes

The above figure indicates that Type II diabetics are from age group 30 to 70.

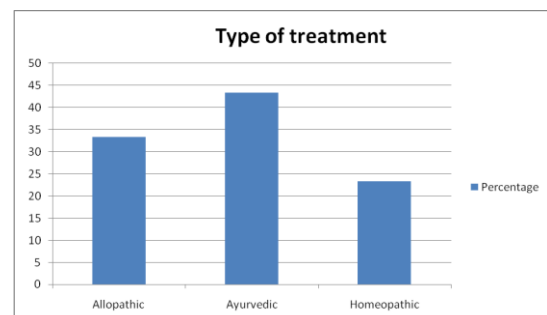


Figure 3: Type of Treatment (Allopathic/Ayurvedic/Homeopathic)

Around 33% diabetic patients undergo allopathic treatment, 43% diabetic patients undergo Ayurvedic treatment and around 23% diabetic patients undergo Homeopathic treatment.

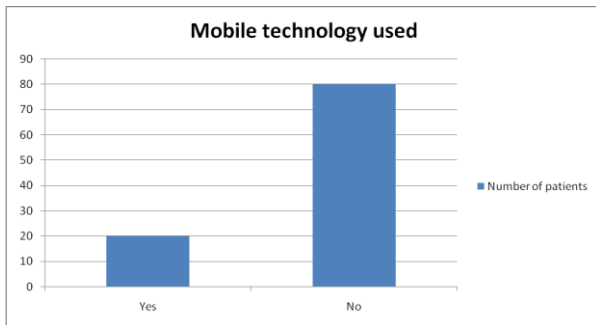


Figure 4: Mobile Technology used for diabetes control

round 20% people use mobile technology to aid the treatment of diabetes and 80% people do not use mobile technology to aid the treatment of diabetes.

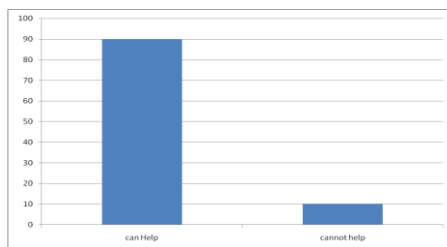


Figure 5: Mobile technology can help or not to control diabetes

Around 90% people think that Mobile technology can help them to control diabetes.

Following are the expectations of patients from Mobile apps.

Reminder for monthly blood checking

To know nearest diagnostic center

To know how to control diabetes, food plan, exercise

To monitor glucose level

To know Medicine of low cost

6. TECH HELP

Diabetes could be a chronic unhealthiness that needs continued treatment and in progress patient self management education and support to cut back the danger of long incapacity and stop complications. Self-management refers to “tasks that a personal should undertake to measure well with one or a lot of chronic conditions. These tasks embrace gaining confidence to take care of medical management, role management, and emotional management. Self-management processes square measure inherently knowledge intensive, requiring acquisition, storage, and analysis of enormous amounts of knowledge on an everyday basis.

Advances in Smartphone technology and wireless networks have resulted in accrued adoption and increased capability, resulting in opportunities for improved polygenic disease self-management.

Poor self-management skills, lack of personalised education and clinical inertia square measure resulting in serious complications, leading to thorough use of resources and reduced quality of life. Recent proof suggests that mobile health (mHealth) applications (apps) could also be wont to effectively deliver health services and self-management tools

whereas overcoming sure barriers to supplier access. A major potential lies within the ability to speak with people in time period, be ready to capture knowledge, and supply call support. mHealth apps could also be targeted for patient use, the care supplier, or both, promoting communication, sharing of knowledge and decision-making.

The enlargement of health care technologies, significantly mobile health technologies, grew exponentially within the past ten years

The review of mHealth apps found that, in general, mHealth analysis targeted preponderantly on chronic conditions, and of those conditions, polygenic disease was the foremost frequent focus. A recent review of diabetes-specific apps on the market in 2013 for the iOS and mechanical man operative systems evaluated vary of functions, target audiences, languages, cost, ratings, interfaces, and usefulness and located that apps had moderate to smart usability among older adults WHO had polygenic disease once the apps had alittle vary of functions. The review emphasised that simplicity of use and graspable nomenclature is very necessary for optimum usability among older populations.

7. INNOVATIONS IN MOBILE HEALTH CARE

Diabetes management has developed with the presence of smart phones, giving so many applications, to help technologically users. This chop-chop growing field of mobile apps has hosted a multifaceted choice starting from novice startup software package to programs designed for skilled use. It’s currently a lot of easier to calculate & track your blood glucose level, hypoglycemic agent intake & do such a lot additional. Polygenic disorder will and should be unbroken under control not simply by having the sugar levels within the body however conjointly by the intake of proper diet and exercise regimes. Specifically designed for good phones this wonderful app is meant to assist diabetics to manage higher their polygenic disorder and keep it in check.

7.1 Diabeto

Diabeto could be a complete polygenic disorder management system that consists of a non-intrusive Bluetooth supercharged accessible hardware device that allows the transfer of blood sugar readings from your Glucometer into a Smartphone. These readings are then kept firmly on a cloud server for simple access to your information, anywhere, anytime. One will access this information on Smartphone application, Diabeto mobile application and cloud. The hardware of Diabeto is going to be accessible for purchase in early 2016.

Features

- Log polygenic disorder information on robot Application, log food, mood, activates and hypoglycemic agent.
- Get a whole summary on your current polygenic disorder management.
- Book a rendezvous with doctor.
- Video chat with doctor at the comfort of your home from panel doctor.
- Start felling higher and manage polygenic disorder.
- Access information on mobile and laptop and share to doctor.
- It’s compatible with each the iPhone and robot devices.[14]

- The app permits you to decide on from a listing of twenty compatible glucometers, associated another 30-plus glucometers are going to be more in future as an update.
- It permits users to incorporate further data that a conventional glucometer does not provide, as an example, diet (carbohydrates) intake, physical activities (exercise), moods, stress level, and so on. These are important factors associated with a patient's sugar level.
- All these information points will then be analyzed diagrammatically.
- It permits you to make a goal suggested by your doctor and track it simply.
- It conjointly permits you to share your information together with your doctor directly from the app.
- It permits you to store the information on the cloud thus your data is rarely lost notwithstanding your device.
- Free polygenic disorder robot app and diabeto cloud is absolved to use. They charge some cash for video consultation as low as Rs. 650.

7.2 Lifespan

This application acts as a polygenic disorder management assistant and is consistently updated to produce the user with most up-to-date data concerning polygenic disorder. Time period could be a complete package that comes with nice options sort of a log for recording blood sugar Readings, force per unit area Readings, Diet and Exercise Details. This application makes a straightforward reference for patients to accumulate their entire log history. Patients may also visualize sugar level fluctuations with the assistance of graph. This application includes a provision to line reminders for medication timings, hypoglycemic agent dose and for blood glucose reading too. Members will keep connected with their MD, and relations with the assistance of “Lifespan Family Connect App”, wherever they will share or update their blood glucose reading. The applying permits patients to secure their personal information through the employment of login accounts (username and password).[11]

Features

- An personalized management arrange supported your distinctive mode, dietary habits, nature of labor, case history, personal case history and current fitness.
- Unified resolution like an expert, medical specialty and steering beneath one convenient roof. Easy-to-access electronic medical records.
- A network operating in multiple modes to advise and prepare varied suggests that of support to diabetics.
- To maximize convenience, medical care effectiveness and continuity of consumer support, standards followed across clinics are uniformly designed.

The approaching options of this application would come with “Diabetes Education” wherever this app can offer polygenic disorder management tips, and mode tips that would facilitate in managing polygenic disorder. Another feature would be “Recipes for Diabetes” that, would permit patients to fancy delicious food while not the danger of accelerating blood glucose levels and support of Social cluster, can inspire patients to manage polygenic disorder effectively. Its user

friendly and a comprehensive personal polygenic disorder manager that has complete back-up of the health parameters on its server which might be retrieved whenever a patient wants it (no loss of non-public health data).

7.3 Dr. Mohan's polygenic disorder App

The Dr. Mohan's polygenic disorder Management Program could be an established on-line mode work program supported a landmark clinical study referred to as the polygenic disorder hindrance Program (DPP) within the USA and has been designed for Republic of India in partnership with Dr. Mohan's polygenic disorder Specialties Centre.

It has simple to use net and mobile platform that facilitate seamlessly integrate diet & activity trailing.

The program is suggested for folks with:

- Type II polygenic disorder
- Pre-diabetes
- Hypertension
- High steroid alcohol
- Glucose
- Daily activity (using integral pedometer)
- Dietary Intake followed
- Weight
- Insulin Units
- Blood Pressure
- HbA1c
- Lipids

It has weekly interactive video lessons can facilitate to be told exciting and established methods to eat healthier, become additional active and manage regular things that are available in the manner of up mode. The app includes a Coach feature which provides timely suggestions once we use the app. The coach can keep the track whereas rummaging the program. You'll conjointly raise inquiries to your Coach victimization the app. Get access to stunning and informative reports concerning the knowledge that you simply are trailing. These reports can also be shown to your personal MD so he/she can make comeback information concerning your health.

7.4 On Track Diabetes: Medivo Medical

On Track is currently a part of Medivo! On Track permits you to quickly and simply keep track of everything you wish to manage your polygenic disorder.

Features:

- Quickly and simply track blood sugar, hemoprotein A1c, food, weight and lots of others
- Ability to add/edit classes to fit your wants
- Generate elaborated graphs and reports to share together with your MD
- Supports each USA and International units for aldohexose and hemoprotein A1c
- Easily keep track of your daily, weekly and monthly average aldohexose levels
- Set reminders to stay you heading in the right direction.

7.5 mySugr polygenic disorder Logbook: mySugr GmbH Medical

mySugr record book app could be a charming polygenic disorder huntsman for blood glucose, food, carbs, insulin, pills, weight and additional. It makes your diary helpful in way of life with rascally parts and immediate feedback through your polygenic disorder monster. Its options are:

- Designed for sort one & sort two polygenic disorder
- Quick and simple work (meals, meds, BG's, and more)
- Personalized work screen (add, remove, and reorder fields)
- Analysis on Monthly, Weekly and Daily basis
- Exciting challenges for private medical care goals
- Motivating feedback
- Secure information backup
- Social sharing functions
- Registered (class 1) medical device

7.6 ACCU-CHEK 360° polygenic disorder management app

Take control—everywhere you go

The ACCU-CHEK 3-Day Profile is associate electronic version of the ACCU-CHEK 360 read paper tool clinically established to lower A1C once used at the side of your aid skilled. The ACCU-CHEK Testing in Pairs tool helps you inspect one meal, activity or alternative event, and see the effect on glucose level in your blood with before-and-after testing. A full-featured record book offers you a whole read of your numbers, carbs, hypoglycemic agent and additional

Features:

- Easily e-mail reports to your aid team
- Simple information entry and testing reminders
- Personalize screens, choices and reports
- Smartphone running robot OS two.2 or higher
- Telephony association
- 3 MB of free memory
- Minimum show resolution of 320 x 480

7.7 polygenic disorder huntsman: Mig Super Health Fitness

This app and appearance forward to form it as helpful as attainable for those making an attempt to manage their polygenic disorder; hypoglycemic agent levels. this version brings:

- Glucometer
- Medicine Tracker:
- Doctors & Appointments
- Food
- Exercise
- Reports

- Reminders
- Expenses
- Blood Pressure huntsman

This app is really noteworthy for people who get perfection of body; mind!

Diabetes huntsman is straightforward, quick, effective and proven! Manage your polygenic disorder victimization polygenic disorder huntsman and lead of your polygenic disorder today!

8. LIMITATIONS OF EXISTING APP

The most common sorts of polygenic disorder apps known were for health chase or self-monitoring tasks like recording blood sugar levels, endocrine levels, and medicine. Different sorts of apps were insulin-dose calculators, physician-directed apps, food reference databases and exercise apps. These polygenic disorder apps failed to demonstrate clinical effectiveness or integrate with health healthcare delivery systems; different limitations enclosed potential threats to safety and privacy, usability problems, and lack of non-public feedback.[5]

Although the surge within the development of polygenic disorder apps and Smartphone possession continues, it's questionable however relevant and acceptable these sorts of health data technologies square measure for individuals with low health attainment those that have a restricted ability to get, process, and perceive basic health data for creating health selections . In general, those with low health attainment square measure less possible to grasp health data and acumen to access and procure hindrance services, have worse glycemic management , and have higher rates of polygenic disorder complications .

People with low health attainment square measure less possible to access and use health data technology or be pc literate . Having eHealth attainment promotes self-efficacy for, and use of, health apps. Reviews of mobile apps advocate sure style options to extend effort, efficiency, and satisfaction among low-literacy users, together with the following:

- Text-based interfaces
- Graphical cues
- Including larger widgets
- Language support in text and audio
- “back” and “home” buttons
- Linear navigation (navigation bar and scrollbars)
- Minimal stratified structures
- Avoidance of nonnumeric text input and scrolling menus.

9. RECOMMENDATIONS FOR FUTURE ACTION

Learning concerning users — distinguishing users and what they're making an attempt to try and do and fascinating them within the style process;

Writing unjust content — swing the foremost necessary info 1st, staying positive and realistic, providing action steps, and writing in plain language;

Displaying content clearly — exploitation short paragraphs, giant font size, white house, and clear labels;

Organizing and simplifying — exploitation labels and providing easy accessibility to home pages, linear info ways, and search and browse functionality;[13]

Engaging users — as well as printer-friendly tools, simplified controls and buttons, and interactive content; and Evaluating and redaction the positioning — exploitation fully fledged moderators to check the positioning with users of low accomplishment and low health accomplishment.

10. CONCLUSION

The low median score indicated that the notice was usually poor. The score was low particularly in girls and subjects with low education. The study highlights the imperative want for ways to unfold awareness concerning polygenic disease within the general population. Diabetic subjects additionally needed higher education on several aspects. Individuals ought to use technology to observe polygenic disease and that they ought to bear in mind of approaching technology which may facilitate them to observe polygenic disease n to measure healthy life

11. FUTURE SCOPE

- There can be a reminder for monthly blood checking
- Mobile app can help know nearest diagnostic center
- Mobile app could also help to keep a track on how to control diabetes, food plan, exercise
- It would also help in monitoring glucose level
- It will also contribute to know medicine of low cost.

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