

Summer Internship
At
IIHMR, Delhi (April 1 to May 31st, 2020)

A Report
on
“Effect of mHealth application in driving behavior change among diabetic patients”

By
PRIYANKA GUPTA (PG/19/067)

Submitted To-
Dr. Anandhi Ramachandran

Post-graduate Diploma in Hospital and Health Management
2019-2021



Acknowledgement

Working on my project at IIHMR DELHI during the lockdown due to Covid-19 pandemic has been a really prominent experience and on the successful completion of this, I would like to thank the honorable Director of the Institution for being patron to this entire project. Being a part of this renowned and distinguished institute was a memorable experience and I feel proud for having completed my project at IIHMR DELHI.

I thank Dr. Anandhi Ramachandran, my Mentor, for his support, and encouragement and extend my gratitude to the entire staff of the institution who helped me every now and then throughout the project, showing me light whenever I faced any kind of trouble.

Special thanks to Mr. Jagdish, for helping me with the plagiarism and research article access for this project. Words do not suffice for the gratitude I feel towards Dr. Divya Aggarwal, Human resource manager, Dr. Anandhi Ramachandran and Tarun Nagpal of IIHMR DELHI, who patiently and diligently introduced me to the assignment guidelines and arranging Zoom meeting as per need, I would not have been able to meet the deadline for my work.

I would also extend my humblest gratitude towards the students and fellow mates of the Healthcare management for providing me with a friendly ambience. I would like to specially thank Jyoti, Simran, Adarsh and Shubhangi in this regard.

Finally, I thank God almighty and my parents for give me the strength courage to make my dreams come true.

Priyanka Gupta

DECLARATION

I Priyanka Gupta, hereby declare that this Internship Assignments entitled **“Effect of mHealth application in driving behavior change among diabetic patients”** is the outcome of my own study undertaken under the guidance of Prof/ Dr Anandhi Ramachandran, IIHMR-New Delhi. It has not previously formed the basis for the award of any degree, diploma, or certificate of this Institute or of any other institute or university. I have duly acknowledged all the sources used by me in the preparation of this field internship report.

Date: 09/07/2020

Sign:

Postgraduate Diploma in Hospital and Health Management

International Institute of Health Management Research

New Delhi

CERTIFICATE OF COMPLETION

The certificate is awarded to

Name Priyanka Gupta (PG/19/012)

In recognition of having successfully completed her/ his Internship in the department of health management and has successfully completed his Project on

“ Effect of mHealth application in driving behavior change among diabetic patients”

Date: 28/06/2020

IIHMR DELHI

She has found to be a committed, sincere and diligent student who has a strong drive & zeal for learning.

We wish him/her all the best for future endeavors

Dean- Academics & Student Affairs

Mentor Name & Signature

Certificate of Approval

The following Summer Internship Project titled “ **Effect of mHealth application in driving behavior change among diabetic patients** “at “**IIHMR DELHI**” is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed, or conclusion drawn therein but approve the report only for the purpose it is submitted.

Dr. Anandhi Ramachandran

Asst. Professor

IIHMR, Delhi

TASK-1



CASE STUDY ON SITARAM BHARTIA INSTITUTE OF SCIENCE AND RESEARCH HOSPITAL, NEWDELHI



Objective:

To study the organization structure and operational aspects of Sitaram Bhartiya hospital.

About the Study

The purpose behind this study is to comprehend authoritative structure and operational parts of the association. I will have the option to see how the human removal in huge structures happens. For contextual analysis, I took Sitaram Bhartiya Institute of science and examination emergency clinic close Qutab institutional territory, New Delhi .The significance of this investigation lies in the way that it opened new skylines for the investigation of openness, uniting regions of the board and structure, which really supplement each other so as to arrive at a general outcome for the different clients of this kind of framework. The investigation is about the presentation, work culture, supervisory group, correspondence channels and duties of their group, administrations, and projects.

Introduction of the Hospital -

Sitaram Bhartiya Institute of Science and Research is a 70-bed, Multi-claim to fame emergency clinic in New Delhi with a solid spotlight on following proof based and moral clinical practice. They are generally known for their way to deal with maternity care through which they teach and get ready families towards solid, typical conveyances. Sitaram Bhartiya Institute of Science and Research was established with a feeling of serving society through exploration. With an attention on wellbeing they have developed into an association that consolidates clinical examination with greatness in understanding consideration. Their examination centers around gathering wellbeing related data, deciphering proof-based rules in clinical work on, creating financially savvy intercessions for improving consideration, researching factors impacting ailment improvement, and investigating clinical writing for creating clinical rules. Their clinical consideration administrations endeavor to convey care according to universally acknowledged proof based rules. This frequently means an organized methodology where groups of social insurance experts cooperate to exhaustively address needs of patients and their families. Results estimation is likewise progressively used to persistently screen and improve the nature of our consideration.

Extraordinary program is offered for birthing (pregnancy), pediatric nourishment and dietary intercession, diabetic and heftiness the board, precaution wellbeing exams are extraordinarily intended for pediatric young adult, youngster, and grown-up age gathering.

Sitaram Bhartiya's examination centers around gathering wellbeing related information for our populaces, creating quality improvement mediations, and featuring dismissed parts of clinical consideration a portion of its dynamic territory of exploration are diabetes, general medication, obstetrics and gynecology, pediatrics, and psychiatry.

Core purpose- To serve society as a well-spring of excellence in healthcare delivery, research, and education

Envisioned Future

They center around turning into a productive clinical Center that will be known for its pledge to rehearsing proof-based medication and giving world-class care. They have the future dreams as follows:

- To have settled exploration programs that will concentrate on increasing a superior comprehension of the human services needs in our networks and creating functional answers for tending to those requirements.
- To be pioneers who will have effectively taken up those social insurance challenges that may somehow have remained inadequately tended to.
- To have community-oriented courses of action with driving foundations from around the globe and be in the cutting edge of giving preparing to wellbeing experts. Acknowledgment by giver offices and individual donors with the goal that they liberally bolster our drives.
- To be recognized as an organization that fills in as an image of greatness in our public.

MANAGEMENT TEAM (Roles & Responsibilities)



Dr. Sneh bhargava
(Medical Director and
Senior Consultant ,
Radiology)



Abhishek bhartia
(Director)



Saru bhartia
(Consultant -Quality)



Dr .Shubhra verma
,Ph.d
(General manager -
operations)

WORK CULTURE-

Work at Sitaram Bhartiya is to have an alternate involvement with social insurance. They give the chance to accomplish important work, develop your profession, and construct associations with incredible individuals. They center around different angles, for example, leaving a positive effect on the patient experience, being encircled by consistent getting the hang of, working with respectability, and Strengthening the association.

SPECIALITY:

Clinical Specialties – There are 17 departments are: Anesthesiology, Child care (pediatrics), child care, dental, dermatology, Diabetes & endocrinology, ENT, General surgery, Gastroenterology, Internal medicine, Laboratory, Nephrology, Obstetrics & gynecology, Psychiatry & psychology, Radiology.

Medical services – 24x7 pharmacy , 24x7 emergency services , 24x7 laboratory services , 7 operation theatres, Intensive care unit , neonatal intensive care unit, outpatient clinics, in-patient services , birth complex (labor and pre labor room) , pediatric intensive care unit

Non-Medical services – Wi-Fi, cafeteria (open from 7 am- 8pm), patient and attendant meal services patient and visitor parking.

Blood storage services

Maternity program –

Antenatal classes –the antenatal classes at Sitaram Bhartiya hospital educate women about the entire journey of pregnancy and delivery and empower them to have a positive birth experience. Through series of four antenatal classes, pregnant couples at Sitaram Bhartiya learn how to manage their pregnancy, prepare for their delivery and how to manage early parenthood.

Series of four antenatal classes are:

- 1) Pregnancy, diet, and exercise
- 2) Labor and delivery –
- 3) Postnatal care
- 4) Preparing for the new arrival

Radiology services

The department is equipped with conventional x-ray units, a computerized radiographic system, a dedicated mammography unit, a dexta scan unit and 2 USG scanner with color Doppler facility for vascular, cardiac-transvaginal, transrectal and small parts studies. There is a 24 × 7 emergency services

SERVICE OFFERED

- 1)X-Rays – plain x-beam of all pieces of body, compact (bedsides x-beams) GI examines.
- 2)Mammography – Dedicated low portion unit
- 3)Dexta Scan – osteoporosis discovery, Total muscle to fat ratio examination
- 4) Ultrasound –abdomen, chest/chest, pelvis, testicles, Doppler-vascular investigations ultrasound guided FNAC/Biopsy/Drainage.
- 5)Cardio – aspiratory determination – ECG, pneumatic capacity tests, treadmill test, echocardiography, 24-hrs mobile pulse checking, 24-hrs. Holter checking.

Research center administrations - 24-hour round – the-clock administrations and home example assortment benefits all over Delhi NCR. Preventive wellbeing check administrations - They offer extensive wellbeing test plans for both male and female that incorporate lab examination, radiology examination, heart examination, visual and dental screening, and counsels with a scope of specialist.

**WOMEN'S HEALTH
Preventive Health Check**

PLANS as per recommended age groups		Titanium	Platinum	Gold	Silver
		Full Body check	>45 years	35-45 yrs	20-35 yrs
Lab Investigations					
Blood Group		✓	✓	✓	✓
Complete Blood Count (Hb, TLC, DLC, RBC Count, PCV, MCV, MCH, MCHC, Platelet count, RDW & ESR)		✓	✓	✓	✓
Blood Glucose (Fasting & PP)		✓	✓	✓	✓
HbA1c		✓	✓	✓	✓
Lipid Profile (Blood cholesterol, LDL, HDL, VLDL, Triglycerides)		✓	✓	✓	✓
Liver Function Test (Total Protein, Albumin, Globulin, A/G Ratio, Bilirubin - Total & Direct, SGOT, SGPT, Alk. Phosphatase and Gamma GT)		✓	✓	✓	✓
Thyroid Function Test (TSH)		✓	✓	✓	✓
Urine Exam		✓	✓	✓	✓
Renal Function Test (Blood urea, Creatinine, Uric acid)		✓	✓	✓	✓
Pap smear		✓	✓	✓	✓
Serum Electrolytes (Na, K, Cl)		✓	✓		
Serum Calcium and Phosphorus		✓	✓		
Vitamin Profile (Vit. D, Vit. B12 and Folic acid)		✓			
Radiology Investigations					
X-ray Chest (PA View)		✓	✓	✓	✓
Ultrasound (Whole Abdomen)		✓	✓	✓	✓
Bone Densitometry		✓	✓		
Cardiac Investigations					
ECG		✓	✓	✓	✓
Pulmonary Function Test (PFT)		✓	✓	✓	
TMT / ECHO			✓		
Stress Echo / DSE		✓			
Screening					
Dental Screening		✓	✓	✓	✓
Visual Screening (Visual Acuity)		✓	✓		
Consultations					
General Physician		✓	✓	✓	✓
Gynecologist (for women)		✓	✓	✓	✓
Dietician (Nutritional Assessment)		✓	✓	✓	✓
Physiotherapist		✓	✓	✓	✓
Price (Rs.)		15,500	12,500	9,200	6,140

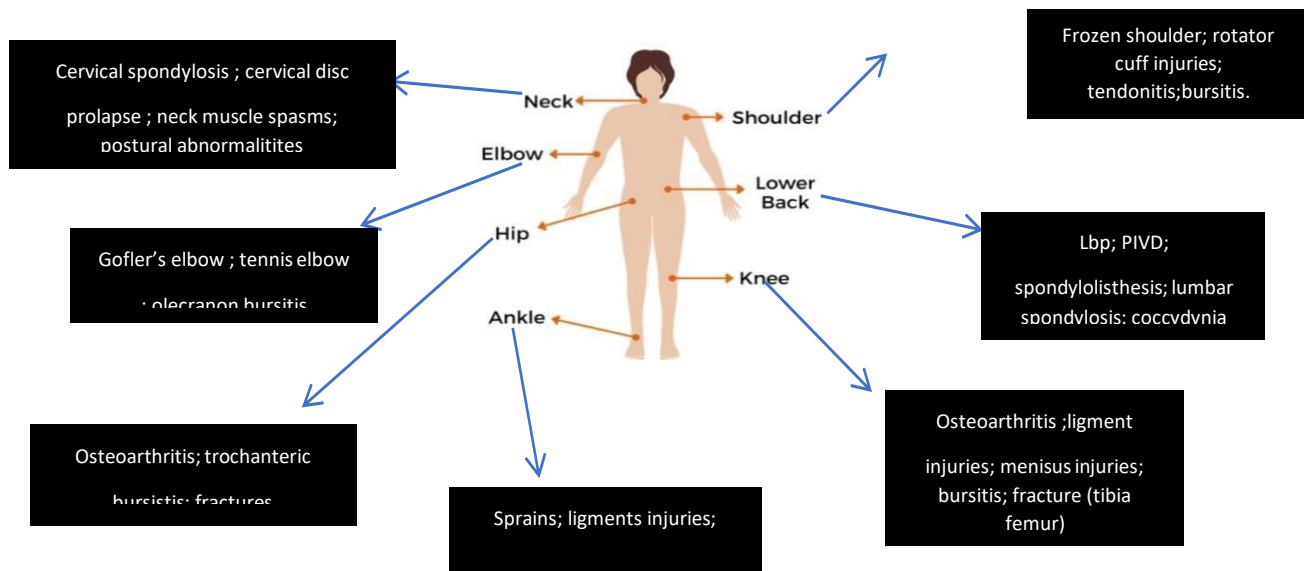
**MEN'S HEALTH
Preventive Health Check**

PLANS as per recommended age groups		Titanium	Platinum	Gold	Silver
		Full Body check	>45 years	35-45 yrs	20-35 yrs
Lab Investigations					
Blood Group		✓	✓	✓	✓
Complete Blood Count (Hb, TLC, DLC, RBC Count, PCV, MCV, MCH, MCHC, Platelet count, RDW & ESR)		✓	✓	✓	✓
Blood Glucose (Fasting & PP)		✓	✓	✓	✓
HbA1c		✓	✓	✓	✓
Lipid Profile (Blood cholesterol, LDL, HDL, VLDL, Triglycerides)		✓	✓	✓	✓
Liver Function Test (Total Protein, Albumin, Globulin, A/G Ratio, Bilirubin - Total & Direct, SGOT, SGPT, Alk. Phosphatase and Gamma GT)		✓	✓	✓	✓
Thyroid Function Test (TSH)		✓	✓	✓	✓
Urine Exam		✓	✓	✓	✓
Renal Function Test (Blood urea, Creatinine, Uric acid)		✓	✓	✓	✓
PSA (for prostate cancer)		✓	✓		
Serum Electrolytes (Na, K, Cl)		✓	✓		
Serum Calcium and Phosphorus		✓	✓		
Vitamin Profile (Vit. D, Vit. B12 and Folic acid)		✓			
Radiology Investigations					
X-ray Chest (PA View)		✓	✓	✓	✓
Ultrasound (Whole Abdomen)		✓	✓	✓	✓
Bone Densitometry		✓	✓		
Cardiac Investigations					
ECG		✓	✓	✓	✓
Pulmonary Function Test (PFT)		✓	✓	✓	
TMT / ECHO			✓		
Stress Echo / DSE		✓			
Screening					
Dental Screening		✓	✓	✓	✓
Visual Screening (Visual Acuity)		✓	✓		
Consultations					
General Physician		✓	✓	✓	✓
Dietician (Nutritional Assessment)		✓	✓	✓	✓
Physiotherapist		✓	✓	✓	✓
General Surgeon (if referred by Physician)		✓	✓		
Price (Rs.)		14,500	11,500	9,200	5,910

PHYSIOTHERAPY –

Department of physiotherapy and Rehabilitation seeks to promote and enhance recovery, health and wellness that fit each patient's needs. The department is headed by Dr. Aman Sachdeva, BPT, MIAP, MDCPOT.

Common area of treatment



NEW DEVELOPMENT



SITARAM BHARTIA
Institute of Science & Research
care you can trust™

During this emergency hour and to encourage social distancing, Sitaram Bhartia Institute of Science and Research is introducing telemedicine so that patients can consult doctors over video rather than visiting the hospital.



For inquiries: 011 4211 1111

TELEMEDICINE SERVICES — Due to Covid -19 pandemic .

Step 1: Call 01142111111

Step 2: email report – you will be asked to email reports before consultation.

Step 3: pay online –you will be informed about the different

CENTRE OF EXCELLENCES

UROLOGY – They give the best treatment and direction to tolerant with issue in their urinary plot including kidney , ureters, bladder, and the urethra .Their multi-disciplinary group isn't just knowledgeable about rewarding urinary bladder yet in addition expects to give master experience direction to individuals as for prostate development , stone illness , male barrenness and urological disease .

OBSTETRICS AND Gynecology –

The Obstetrics and Gynecology division gives care to ladies between the periods of immaturity to post-menopause and has developed as the biggest claim to fame at Sitaram Bhartiya. Patients and guardians accepting consideration from Obstetrics and Gynecology reliably give high appraisals and express incredible fulfillment with their consideration. A significant focal point of the office is to de-medicalize labor and decrease the cesarean area rate to medicinally legitimate levels. Gynecological administrations incorporate treatment for fibroids, endometriosis, ovarian blisters, fruitlessness, and uterine/ovarian malignant growth. The division is prepared to complete laparoscopic medical procedures, hysterectomies, and hysteroscopic and colposcopy methods.

GENERAL SURGERY - The Department of General Surgery at Sitaram Bhartiya Hospital comprises of exceptionally talented specialists with long stretches of understanding and top of the line offices that meet up to give ideal treatment. There specialists have confidence in setting aside the effort to disclose your condition to you and noting any questions you may have. They offer master careful guidance for conditions identified with normal stomach protests, for example, gallbladder related conditions like gallstones, cholecystitis, and so forth., an infected appendix, a wide range of hernias, crevices, fistula, hemorrhoids (heaps), thyroid issues, alongside other stomach, intestinal and bosom issues.

Administrations advertised

Laparoscopic Cholecystectomy (Gallbladder-Removal Surgery)

Gallbladder-related conditions, for example, gallstones, gallbladder slop or gallbladder polyps are some normal concerns. They offer negligibly obtrusive medical procedure known as Laparoscopic Cholecystectomy (nerve bladder expulsion medical procedure) that utilizes less, littler cuts and results in insignificant scarring and a shorter remain in the clinic post-medical procedure.

Laparoscopy Appendectomy (Appendix-Removal Surgery)

A ruptured appendix - The careful evacuation of the addendum is completed utilizing a negligibly obtrusive careful technique known as Laparoscopic Appendectomy. This outcomes in less post-employable agony and a shorter medical clinic remain.

Hemorrhoid's (or Piles) Treatment - They offer a Minimally Invasive Procedure for Hemorrhoids (MIPH) or Stapled Hemorrhoidectomy which is practically effortless and conveys insignificant hazard.

Careful Treatment for Anal Fistula – They offer open fistula medical procedure just as VAAFT medical procedure. Their group gives point by point data before medical procedure and direction during the post-employable period.

Laparoscopic Hernia Repair

RESEARCH AT SITARAM BHARTIA HOSPITAL –

Sitaram Bhartiya Institute of Science and Research was established in 1979 to lead research in medication and unadulterated and applied sciences. Under the aegis of its first chief, Dr. N. Gopinath, Sitaram Bhartiya Institute of Science and Research directed one of the biggest network-based investigations of coronary supply route infection in India. It at that point took up a huge investigation of circulatory strain in Indian younger students. These examinations yielded significant data on the hazard factors for cardiovascular ailment in our nation. They likewise settled standards for ordinary blood cholesterol and circulatory strain in our populace.

As of now, the Research Division is going by Prof. H.P.S. Sachdev. During the ongoing past the organization has concentrated its exploration endeavors on effective issues of national enthusiasm for the expansive territories of clinical the study of disease transmission, nourishment, maternal and youngster wellbeing and non-transferable sicknesses. The significant subjects incorporate

early life beginnings of grown-up malady, job of nutrient D in diabetes and genuine bleakness in youngsters, developing scourge of heftiness related metabolic issues, kid endurance, worldwide nourishment strategy, micronutrients, and nature of care. The exploration strategy utilized has included huge partner contemplates, randomized controlled preliminaries and optional examination including deliberate surveys.

The examination has been subsidized from both intramural and extramural assets. Extramural awards have been gotten from both worldwide and national sources including the World Health Organization, Indian Council of Medical Research and Department of Biotechnology.

The quantum and nature of late exploration yield (since 2006) is apparent from 158 distributions, of which 81 are in globally ordered diaries, 28 are in broadly recorded diaries and 35 are in non-filed diaries.

SUMMARY OF QUANTITY AND QUALITY OF RESEARCH

PUBLICATIONS

Output	1989 – 2005	2006 – June 2013
Publications:		
Indexed		
International	5	81
National	20	28
Non-Indexed	19	35
Reports	1	13
Books		1
Total	45	158
Impact Factor of Indexed Publications:		
High (IF > 4)	4	44
Moderate (IF 2-4)	1	29
Low (< 2)	20	36
Total	25	109

The examination yield has been used for planning national and worldwide strategy. Striking models incorporate the worldwide choice of the World Health Organization, Geneva according to neonatal Vitamin A supplementation, locally situated consideration to forestall neonatal mortality and short course anti-toxin treatment for otitis media based on orderly audits led by the establishment. The examination endeavors have additionally gotten acknowledgment as national honors and speeches.

Dynamic intrigue has been taken in spreading the exploration discoveries by association of workshops, gatherings, and Continuing Medical Education arrangement

ACHIEVEMENT:

Two significant quality pointers to quantify result: -

Cesarean rates - in 2016, our cesarean-area rate for generally safe, first-birth mothers conveyed by our staff specialists was 12%; this cesarean rate is conceivably the most reduced for a private emergency clinic in Delhi/NCR and contrasts well and prestigious worldwide medical clinics.

Cesarean Section rates in 2018 resemble 2017-Cesarean Section rates in 2018 resemble 2017.

All out Cesarean Section Rate: 19%

Cesarean Rate for generally safe, first-birth mothers*: 12%

Ordinary conveyance rate for okay, first-birth mothers*: 81% *this bunch alludes to moms who had crossed 37 weeks and had a solitary child in the head down

The feedback they receive from their patients –

COMMUNICATION

CHANNELS – Phone:

011-421111

Emergency: 011 – 4290 9090

General enquiries: enquiries@sitarambhartia.org

Media enquiries: sakshi.gurnani@sitarambhartia.org

For feedback services, please write to us at feedback@sitarambhartia.org

Social media:

Facebook: www.facebook.com/sitarambhartia

Twitter: [@sitarambhartia](https://twitter.com/sitarambhartia)

YouTube: [Sitaram Bhartiya Institute of Science and Research](https://www.youtube.com/SitaramBhartiyaInstituteofScienceandResearch)

Instagram: [@sitarambhartia](https://www.instagram.com/sitarambhartia)

SERVICES CHARGES:

OUTPATIENT DEPARTMENT- Out patient department consultation fees are:

Category	Charges (Rs.)
Emergency service charge	500
Emergency consultant visit (5 pm to 8 am)	100% surcharge on consultant's fee
Emergency room (after first one hour)	Rs. 650/hour
Surcharge on Emergency laboratory investigations and diagnostic tests	35% of the rate mentioned in the schedule of charges – April, 2017
KUO (Kept under Observation)	Rs. 2,000

Emergency department - Emergency services charges – 500.

Emergency consultant visit (5pm to 8pm)- 100 % surcharges on consultant fee

In –patient department – room charges



Category	Charges Per Day (Rs.)
Economy	4,410
Twin-sharing	6,560
Single	11,500
Deluxe	14,510
Special Deluxe	16,020
Mini Suite	19,240
Nursery	6000
Neonatal Intensive Care Unit (NICU)	8,000
Pediatric Intensive Care Unit (PICU)	11,500
Intensive Care Unit (ICU)	11,500
Pre-labor Observation	Rs. 650/hour

BIO MEDICAL WASTE REPORT





SITARAM BHARTIA
Institute of Science & Research

B-15 Gurgaon Institutional Area
New Delhi-110 016 India
TEL (011) 4211 1111
FAX (011) 2653 3027
enquiries@sitarambhartia.org
www.sitarambhartia.org

BIO-MEDICAL WASTE RECORD - 2018

MONTH	YELLOW - Incineration (Anatomical Waste & Sealed Waste)		RED - Autoclave (Infected Plastic Waste)		WHITE - Sharp		BLUE - Autoclave (Glassware)		TOTAL	
	No. of bags	Total (Kg)	No. of bags	Total (Kg)	No. of bags	Total (Kg)	No. of bags	Total (Kg)	Total bags	Total (Kg)
Jan-18	324	459.43	319	451.80	165	34.11	104	173.92	912	1119.26
Feb-18	321	559.60	252	373.14	143	27.25	91	176.73	787	1146.72
Mar-18	344	574.66	311	488.17	178	35.80	99	206.88	932	1306.51
Apr-18	301	487.729	283	512.49	103	27.129	64	128.51	751	1155.86
May-18	351	649.55	312	729.375	167	38.57	86	193.3	936	1610.80
Jun-18	280	444.75	257	432.86	118	36.11	72	171.49	727	1085.21
Jul-18	280	552.88	284	553.48	125	34.26	63	172.72	752	1313.34
Aug-18	270	587.1	278	602.22	147	36.91	64	200.96	759	1427.19
Sep-18	241	549.62	246	554.71	154	35.58	65	183.51	706	1325.42
Oct-18	298	603.42	291	554.43	180	35.95	61	209.46	830	1403.26
Nov-18	280	596.86	254	455.16	131	32.99	60	156.93	725	1241.94
Dec-18	280	512	259	478.68	116	28.19	45	142.41	710	1161.28
TOTAL	3570	6688	3358	6200	1728	403	872	2117	9526	15306.78

Regd Office: Block No 1E, 216, Acharya Jagdish Chandra Bose Road, Kolkata, West Bengal - 700017

DPCC ANNUAL REPORT -2018

Section I: General Information

1. Name of the Institution: _____

2. Address: _____

3. Contact Person: _____

4. Date of Report: _____

5. Report Period: _____

6. Name of the District: _____

7. Name of the Block: _____

8. Name of the Gram Panchayat: _____

9. Name of the Ward: _____

10. Name of the Village: _____

11. Name of the Locality: _____

12. Name of the Street: _____

13. Name of the Post Office: _____

14. Name of the Police Station: _____

15. Name of the Sub-Division: _____

16. Name of the District: _____

17. Name of the State: _____

18. Name of the Country: _____

19. Name of the Continent: _____

20. Name of the Hemisphere: _____

21. Name of the Region: _____

22. Name of the Sub-Region: _____

23. Name of the Zone: _____

24. Name of the Sub-Zone: _____

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95. Name of the Continent: _____

96. Name of the Hemisphere: _____

97. Name of the Region: _____

98. Name of the Sub-Region: _____

99. Name of the Zone: _____

100. Name of the Sub-Zone: _____

Section II: Data Collection

1. Name of the Institution: _____

2. Address: _____

3. Contact Person: _____

4. Date of Report: _____

5. Report Period: _____

6. Name of the District: _____

7. Name of the Block: _____

8. Name of the Gram Panchayat: _____

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18. Name of the Country: _____

19. Name of the Continent: _____

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TASK-2



SITARAM BHARTIA
Institute of Science & Research

care you can trust™

Sitaram Bhartiya Institute of Science and Research was founded in 1979 with an aim of conducting medical and applied science research. The institute, under the leadership of its first director, Dr. N. Gopinath, was successful in conducting one of the largest community-based studies on coronary artery disease in India. This research was then followed by another study on blood pressure in the school children in India. All these studies have helped in yielding information about the status of cardiovascular diseases in our country. They also have assisted in establishing policies for normal blood cholesterol and blood pressure in our population.

The research division is currently headed by Prof. H.P.S. Sachdev. All the research conducted on human subjects get the mandatory clearance from the regulatory authorities along with the written consent from the participants.

They utilize different examination strategies like accomplice contemplates, RCT (randomized control preliminaries), auxiliary exploration and methodical surveys. Both the global and the national associations (the World Health Organization, Indian Council of Medical Research, Department of Biotechnology) are the subsidizing hotspots for their examination. They additionally have coordinated efforts with numerous trustworthy global and national organizations for doing the broadly significant and translational exploration.

With its principle center around maternal and kid wellbeing, the organization is likewise engaged with research chip away at a portion of the important issues of national enthusiasm for zones like clinical the study of disease transmission, nourishment, maternal and kid wellbeing, non-transmittable maladies. The significant subjects on which their work depends on are-early life starting points of grown-up illness, job of nutrient D in diabetes, genuine dreariness in kids, rising pestilence of stoutness related metabolic issues, kid endurance, worldwide nourishment strategy, miniaturized scale supplements, and nature of care.

Since 2006, they have had about 158 publications (81 in international journals like the Lancet, British Medical Journal, etc.; 28 in national journals and 35 in non-indexed journals). They have submitted about thirteen reports to the funding agencies and have also published one book.

The following table summarizes the impact factor of all the publications made so far by the institute –

Output	1989 – 2005	2006 – June 2013
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Publications

Indexed

International	5	81
National	20	28
Non-Indexed	19	35
Reports	1	13
Books		1
Total	45	158

Impact Factor of Indexed Publications

High (IF > 4)	4	44
Moderate (IF 2-4)	1	29
Low (< 2)	20	36
Total	25	109

Their examination yields have helped in defining the national and worldwide arrangements. A portion of the striking models are – worldwide choice of the WHO, Geneva according to neonatal nutrient A supplementation, locally situated consideration for the anticipation of neonatal mortality and short course anti-toxin treatment for otitis media dependent on efficient audits. Numerous national honors

and discourses have likewise been given for the exploration done here at Sitaram Bhartiya

The establishment has likewise been a piece of proof based gathering for the detailing of rules for the runs and lack of healthy sustenance which have now been converted into pediatric practice on a normal premise. They have additionally contributed at the worldwide and national gatherings, workshops, teams, master gatherings and examination warning boards of trustees for the plan of strategies, for instance, the WHO, Geneva; International Atomic Energy Association, Vienna; Health Effects Institute, USA; Ministry of Health and Family Welfare, Government of India; Ministry of Women and Child Development, Government of India; Department of Biotechnology, Government of India; National Advisory Council on Nutrition; and Indian Council of Medical Research. They have likewise offered article types of assistance for regarded global and national diaries including the International Journal of Epidemiology, European Journal of Clinical Nutrition and Maternal and Child Nutrition and have bolstered the examination preliminaries through leading and enrolment of Data Safety Monitoring Boards. They have effectively helped in scattering the exploration discoveries by arranging workshops and meetings, addresses, booklets, and so forth.

Sitaram Bhartiya Maternity Program

The medical clinic runs a unique program called the maternity program wherein they Centre around the conviction that a typical conveyance is the best for the mother and the youngster. With a group of very much prepared and humane gynecologists and attendants, they have been working since the past 15+ years to diminish superfluous clinical mediations so ladies can have a positive birth understanding.

In 2016, the staff of the gynecology unit accomplished a striking 88% typical conveyance rate for generally safe, first-birth moms, who had crossed 37 weeks, and had a solitary child in the head down position.

Some of the new developments in this ongoing program are:

- Laboring in water
- Entonox
- Lamaze classes

Through this Maternity Program, the hospital has its main focus on child and maternal health and has been working for the same for many years now. They have

a dedicated department of obstetrics and gynaecology under which their maternity program operates. This department has emerged as the largest speciality at Sitaram Bhartiya Hospital for providing care for women. Their major focus is on:

- De-medicalising childbirth
- Reducing the rates of caesarean section to a level which is medically justifiable

Gynecological administrations incorporate treatment for fibroids, endometriosis, ovarian blisters, fruitlessness, and uterine/ovarian disease, laparoscopic medical procedures, hysterectomies, and hysteroscopic and colposcopy methods.

The emergency clinic has constructed the trust with the assistance of their ordinary conveyance skill who have inside and out involvement with vaginal conveyances. They have faith in giving the best typical conveyance experience to each lady with okay pregnancy, i.e., the way nature expected it. They Centre around one on one work bolster and give nonstop obstetric and pediatrics mastery. They additionally give the absolutely necessary antenatal instruction through a progression of antenatal classes and conferences with specialists and ladies wellbeing instructors.

This department at Sitaram Bhartiya Hospital has a team of some of the best gynecologists in Delhi who have expertise in fields like general and high-risk obstetrics, pelvic endoscopy, infertility, IVF, high risk pregnancy, laparoscopy, hysteroscopy, natural childbirth, urogynecology, and many more.

The institute also runs a blog with articles dedicated to each department at the hospital. Their main focus is on the maternity section where they have about 113 articles published so far. Here, they provide knowledge and information on many diverse subjects and issues like – how much AFI is required for normal delivery, how to confirm pregnancy, dos and don'ts during pregnancy, meaning of a breech baby, labor pain, painless deliveries, meaning of Lamaze, Entonox, how to control diabetes in pregnancy, amniotic fluid, waterbirth, miscarriage and much more.

The institute also has a research section where they have all their publications (both national and international), articles, reports, journals, abstracts and books listed. They have been involved in extensive research for many years now. Some of their international publications in the past one year are –

- Effect of temperature and time delay in centrifugation on security of select biomarkers of sustenance and non-transmittable infections in blood tests.

- Dietary Iron Intake and Anemia Are Weakly Associated, Limiting Effective Iron Fortification Strategies in India.
- Rising provincial weight file is the fundamental driver of the worldwide heftiness pestilence in grown-ups.
- Estimation of protein prerequisites in Indian pregnant ladies utilizing an entire body potassium counter.
- Revisiting dietary iron prerequisite and inadequacy in Indian ladies: Implications for food iron fortress and supplementation.
- Context for layering ladies' sustenance intercessions for an enormous scope neediness mitigation program: Evidence from three eastern Indian states.

Since the institution focuses mainly on maternal and child health, the overview of their related researches, reviews, journals, reports and abstracts have been listed below –

Mortality and different results comparable to first hour liquid revival rate: the orderly audit was done to decide the impact of various routine of first hour liquid organization rates on mortality. A randomized controlled preliminary was led which showed that there is a relationship between organization of liquid bolus and higher mortality.

- Estimation of protein necessities in Indian pregnant ladies utilizing an entire body potassium counter: this investigation was directed to assess the complete body potassium growth during pregnancy in Indian pregnant ladies. They presumed that the extra potassium prerequisite for all around fed Indian pregnant ladies was 12kg.
- Missed finding of Caesarean Scar Pregnancy: two cases were examined corresponding to caesarean scar pregnancy and their confusions alongside their causes. Medicines for the condition like the careful wedge resection of scar pregnancy were likewise recommended in the distribution.
- Use of various micronutrient powders for purpose of utilization fortress of nourishments devoured by pregnant ladies: the rules were given by the WHO which assisted with settling on educated choices on the fitting sustenance activities so as to improve the healthful status of pregnant ladies. It likewise proposes that utilizing these micronutrient powders during pregnancy isn't prescribed as an option in contrast to standard iron and folic supplementation.

- Delayed umbilical rope cinching for improved maternal and newborn child wellbeing and sustenance results: rules were given by the WHO.
- Enhancing ideal newborn child and small kid taking care of practices.
- Maternal antenatal different micronutrient supplementation for long haul medical advantages in youngsters.

TASK-3

Title:

Comparative study on role of mHealth in driving behavior change in diabetic patients

Objectives:

To review and compare studies that focused on technological intervention in driving behavior change in diabetic patients

Methodology

- Research Design: Systematic review-based study
- Search strategy: PubMed, Healthline, Google Scholar and National digital library (MHRD)
- Keywords: Behavior change, Diabetes, mHealth, Technology, Health apps.

Results:

By comparing the available studies, we have found that there is significant change in the behavior of diabetic patient in managing disease due to intervention of mHealth app. After using the app there is a significant enhancement in efficacy, cue to action, severity, susceptibility and self-care. But we found that there is no change in the Barrier aspect of HBM, it may be due to some socio-economic factor.

Major challenges in adopting mHealth technology involves: Connectivity of internet, Availability of required device to access the app among poor people. Most of the instruction are available in some different language which makes more difficult to understand. Biochemical measurement of glucose cannot be measure online and most of the patient don't know how to measure glucose level using glucometer.

Review of Literature

Author	Country	Objectives	Methodology	Time Horizon
Kayo Waki, Hideo Fujita, Yuji Uchimura et.al.	Tokyo, Japan	To find is there any effect on HbA1c level due to Novel smartphone-based self-management system	<ul style="list-style-type: none"> • Non-Blinded randomized controlled study • 54 patients:27 DiaLbetic & 27 Non-diaLbeti control group 	<ul style="list-style-type: none"> • 12 weeks • Participants visited us twice, at week 0 and week 12
Bronte Jeffrey, Melina Bagala et. Al.	Lismore, Australia	To assess first of all the experience, barriers and facilitators for the application of use among people with type 2 diabetes.	<ul style="list-style-type: none"> • Participants ≥ 18 • Diagnose for T2DM ≥ 6 months. • Semi-structured phone interview was conducted with 16 app and 14 non-app user. 	<ul style="list-style-type: none"> • Not Given
Shantanu Nundy, Patrick Hogan et. Al.	Chicago	To evaluate the behavioral consequences of an action focused on a hypothesis, cell phone.	<ul style="list-style-type: none"> • Mixed observational cohort study. • Blends mobile text message and online care systems. • 14 participants 	<ul style="list-style-type: none"> • 3 months(mid-intervention) and 6 months (mid-interventions)
Gladys Block, Kristen MJ Azar, Clifford H Block et. al.	Berkley, United state	To test the efficacy of Alive-PD, a completely integrated algorithm-driven therapeutic intervention for the prevention of diabetes, distributed through the Facebook, Internet, cell phone and integrated telephone call.	<ul style="list-style-type: none"> • Randomized control trial • Total 339 participants • Weekly emails proposed small-step targets and connected with resources for monitoring, counseling, mutual interaction by virtual communities, performance and health details on an specific web page. 	<ul style="list-style-type: none"> • 6 months

Dyna YP Chao, Tom MY Lin, Wen-YaMa et.al.	Taipei city, Taiwan	The goal of this research was to obtain insight into the self-efficacy of patients with newly diagnosed diabetes (type 2 diabetes mellitus) and investigate the correlation of patient-centered health promotion actions and explore the effects of the results for IoT and mobile device apps.	<ul style="list-style-type: none"> • Based on electronic health database. • The trans-theoretical paradigm was used as a basis for analyzing actions in self-management • Experimental design • Randomized controlled trial • Total Participations are 3128. 	<ul style="list-style-type: none"> • 6-18 Months subsequently
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DISCUSSION

After comparing the primary and secondary results of the above study, we found that the overall compliance rate was found to be higher in the mobile app — based health intervention. Various prevention approaches focused on individual preferences, word-of-mouth contact related to health care, and social networking may be utilized to enhance self-efficacy and boost healthcare results. More work is required to define the most important variables and the most successful conformity control strategies.

We also find that advanced information management systems for remote patient monitoring related to theoretical improvements in clinical behavior have the ability to enhance patient conditions in type 2 diabetes and increase study efforts.

Throughout this research, the completely integrated Alive-PD system (live-PD offers personalized therapeutic reinforcement to enhance physical activity, food patterns, and influences such as weight loss, tension, and sleep) has been successful in improving glycemic regulation and body weight, and decreasing diabetes risk in 8 years. In ITT analyzes, the intervention party obtained decreases in fasting glucose of – 41 mmol / L (– 7.36 mg / dL) and in HbA1c of – 0.26% (– 3 mmol / mol) all statistically substantially greater than improvements in control group.

Importantly not all patients were similarly important to such mediators of behavior. For example, some participants considered the insight they learned from the information texts more beneficial than the reminders in self-managing their diabetes, while others consider reminders beneficial in maintaining their condition healthy and stressing its seriousness. These participant-level differences may help understand why there were no substantial improvements in survey measures of awareness of threats despite reports of increased knowledge of personal risk of complications and increased tolerance of diabetes by patients in individual interviews

TASK-4

“Effect of mHealth application in driving behavior change among diabetic patients”

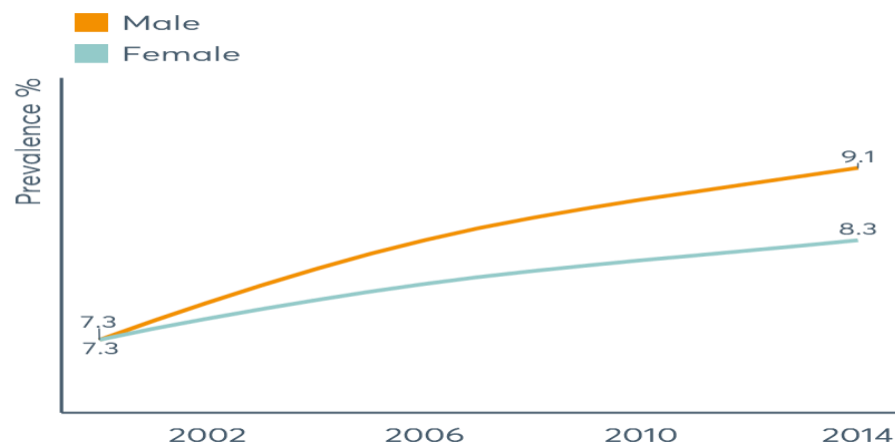
INTRODUCTION

Type 2 diabetes mellitus consists of a variety of hyperglycemic dysfunctions arising from the combination of insulin resistance, insufficient insulin secretion and excessive or improper glucagon secretion.

Most Diabetes type 2 patients are asymptomatic. The clinical forms shall include:

- Classic symptoms: Polyuria, polydipsia, polyphagia, and weight loss
- Blurred vision
- Lower extremity paresthesias
- Yeast infections (eg, balanitis in men)

Type 2 diabetes mellitus is a dangerous condition which results in severe complications and increased mortality. It is predicted that the worldwide prevalence of the disease will increase to 552 million citizens by 2030, putting a significant challenge on many countries across the world. Nevertheless, behavioral modification strategies may postpone or delay the onset of type 2 diabetes in high risk individuals. In the Diabetes Prevention Study (DPS) and the Diabetes Prevention Program (DPP), for example, dietary change and more physical activity resulted in a approximately 60 percent decrease in diabetes incidence in 4 years. ^[1]



Managing diabetes is a complex and demanding process. Growing drugs, techniques, and strategies are all diverse. Behavior is one aspect in diabetes management; habits include how persons with diabetes (PWD) conduct a new function or care plan, go to an appointment or attempt to popular the pain involved with diabetes. PWD typical habits involve recalling and prescribing a drug, measuring doses depending on accessible knowledge and records, sharing diabetes with others, taking medications and being alert for unexpected incidents, and scheduling appointments and purchasing medications. Behavioral activities involving diabetes treatment also contain many main elements – PWD and its immediate environment, where the diabetes service professional recommends improvements of behavior. The degree to which the diabetes care provider's guidelines are followed in PWD's everyday lives depends on a variety of variables like awareness,

personal interactions, emotions and beliefs. The assumption of this paper is that without any sort of improvement in action on the part of PWD, the enforcement of recommendations cannot be accomplished.

Health Behavior Modification is an essential idea for the physical therapy profession. Usually, the essence of physical therapy allows one to consider what motivates our patients and clients in addition to evaluating what can pose a success hurdle, or hinder compliance. Several reports have shown the effects of lifestyle improvements and physical exercise on avoiding or reducing diabetes and its complications ^{2}. Lifestyle modification programs with weight loss or goals for exercise showed a reduction in the incidence of diabetes in people at high risk (HR)

Globally, cell phones have been an important networking device, and technical advancements have further improved the usability of smartphones in different applications. iOS applications are devices that include varied functionalities and resources ranging from entertainment, industry, schooling, and self-management, including integration into chronic disease treatment and prevention such as diabetes self-care. Diabetes self-care has been seen to be strengthened with cell phone approaches because they provide tremendous ability to help treatment control, maximize commitment to medication and reduce risks of the disease. Valuable characteristics of smartphone devices have been identified: quick to access, able to include detailed guidance for effective disease control and able to exchange data with others. Mobile apps that are designed and developed for diabetes management can support self-management in diabetes. There are numerous free or charged diabetes applications and their usage by patients' needs monitoring as the safety benefits of smartphone devices remain uncertain for handling diabetic conditions. Therefore, the usage of mobile medical devices that can help treat diabetes mellitus is minimal. ^{3}

Aims and Objective:

To investigate the outcome in terms of behavior change linked to the application of such mHealth Technology.

To assess the harm and cost associated with these mHealth technology.

Methodology

It is an observational study, we used rapid analysis methods to identify and synthesize proof instead of the conventional systematic review methods.

While reviewing the literature, we took steps to ensure that as many studies as possible were captured that assessed the desired outcomes for commercially available diabetes self-management apps. We searched Medline, PubMed Central for systematic review and SAE international for technical evaluation published between 2010 and 2018.

We have done systematic review of 8 paper (all are cohort study) for this assignment, those address our guiding questions:

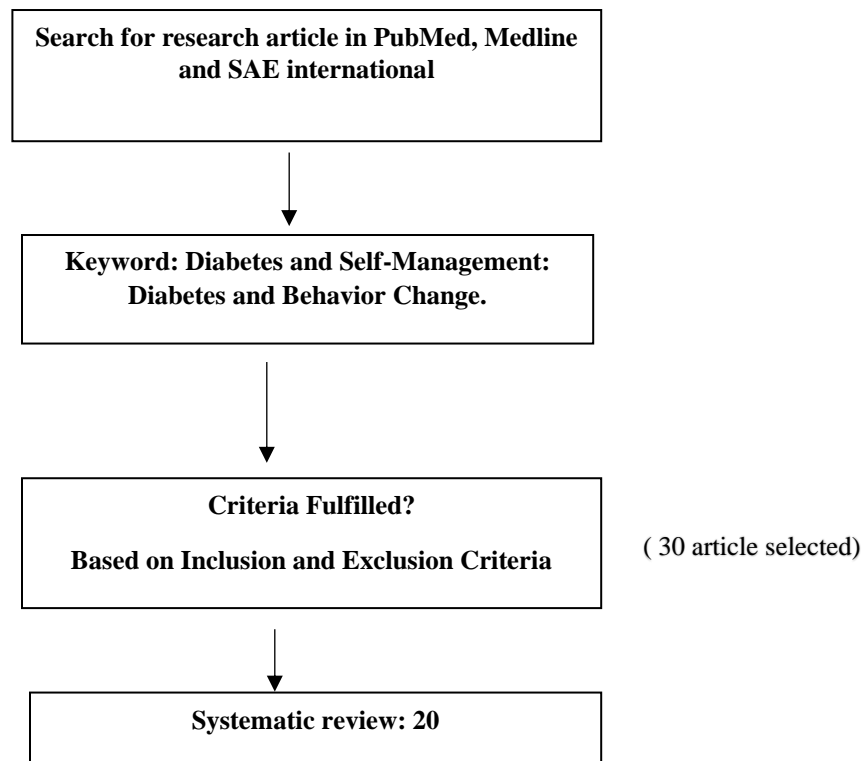
1. Search one or more citation databases.
2. Applied prespecified inclusion and exclusion criteria.

Inclusion and exclusion criteria

Diabetic patients those using mHealth app for self-management are included in this study.

Research paper related to diabetes self-management are involved in this study.

Article published between 2010 to 2018 has been selected.



Review of Literature

Despite substantial improvement, self-management in many persons with diabetes remains a significant challenge for optimum glycemic regulation. Although traditional behavioral treatment approaches may be successful, they typically do not result in lasting improvement in behavior and involve significant funding and patient engagement, reducing accessibility to broad populations. Given the increasing burden of diabetes worldwide and the persistence of preventable morbidity and mortality, strategies for changing behaviors which are readily scalable yet effective are urgently needed. Mobile phone technology, and particularly automatic text messaging, have recently emerged as an exciting medium for behavioral change that gives rise to the mobile health or mHealth fields. This is a retrospective longitudinal analysis with mixed processes. Qualitative approaches (in-depth interviews) and quantitative methods (survey data analyzes) were used to test a cell phone-based 6-month experiment integrating automatic text messaging and remote nursing utilizing an integrated, immersive text messaging program. The purpose of the current study was to

- (1) assess the behavioral effects of CareSmarts, a theory-driven diabetes intervention that combines automated text messaging with remote nurse support, and
- (2) validate the underlying behavioral model for how mobile phone– based interventions affect self-management.

The therapy was related to changes in 5 of 6 self-care domains (medication taking, glucose testing, foot treatment, exercise, and healthy eating) and changes in 1 or more self-efficacy interventions, social help, and health values (perceived control). In qualitative words, participants indicated that the curriculum often influenced awareness, behaviors, and possession. Together these findings were used to construct a new behavioral model. The prevalent belief that cell phones have a significant effect on behavioral progress by alerts and promote the notion that behavioral mental wellbeing strategies should target several behavioral processes related to persistent behavior. ^{4}

Table 2
Self-care Activity Measures: Comparison of Baseline, 3-Month, and 6-Month Scores

	Variable	Baseline		3 Month		6 Month		0 versus 3 Month	0 versus 6 Month	Random Effects
		N	Mean	N	Mean	N	Mean	P Value ^a	P Value ^a	P Value ^b
Self-care activities (all measures on a 7-day scale)	SMBG at least once per day	74	4.5	64	5.3	65	5.1	.06	.01	.04
	SMBG as recommended by provider	74	4.4	64	5.2	65	5.2	.40	.12	.12
	Foot examination	74	2.2	64	2.6	65	2.7	.01	.16	.12
	Shoe inspection	74	2.8	64	3.0	65	2.8	.91	.02	<.01
	Exercise session	74	2.8	64	3.4	65	3.4	.38	.78	.81
	Physical activity	74	5.9	64	6.0	62	6.3	.04	<.05	.02
	Healthy eating in the past week	74	4.5	64	5.0	65	5.3	.10	.10	.13
	Healthy eating in the past month	74	4.0	64	4.3	65	4.6	.12	.02	.03
	Intake of fruits and vegetables	74	4.9	64	6.0	65	5.5	.41	.59	.52
	Recommended intake of fats	74	2.2	64	2.2	65	3.1	.24	.21	.11
Medication adherence	Adherence in the past week (0-7)	74	4.1	64	4.4	65	4.4	.51	.42	.42
	Morisky 4-item (0-4)	74	2.9	64	3.3	62	3.4	<.01	.02	<.01

Abbreviation: SMBG, self-monitoring of blood glucose.

^aThe *P* values are computed from pairwise *t* tests.

^bThe *P* values are from generalized linear mixed effect models.

Table 3

Self-efficacy, Social Support, and Health Belief Measures: Comparison of Baseline, 3-Month, and 6-Month Scores

	Variable	Possible Range	Baseline		3 Month		6 Month		0 versus 3 Month	0 versus 6 Month	Random Effects
			N	Mean	N	Mean	N	Mean	P Value ^a	P Value ^a	P Value ^b
Self-efficacy	Self-efficacy	8-32	71	27.3	64	28.5	60	28.1	.01	.01	.01
Social support	Amount of support received	1-5	71	3.8	64	4.2	64	4.4	.02	.00	.12
	Satisfaction with support	1-5	71	4.1	64	4.4	64	4.5	.14	.01	.36
	Amount of daily support	1-5	71	3.4	64	3.9	64	4.2	.01	.00	.02
	Satisfaction with daily support	1-5	71	4.1	64	4.4	64	4.5	.11	.02	.28
	Satisfaction with monitoring	1-5	71	4.1	64	4.2	64	4.4	.46	.05	.39
	Satisfaction with feedback	1-5	71	4.2	64	4.3	64	4.5	.56	.02	.38
	Long-term complications in others	5-20	71	15.1	64	15.2	64	16.0	.92	.02	.03
Health beliefs	Long-term complications in self	5-20	71	10.6	64	11.2	63	10.9	.28	.94	.54
	Risk knowledge	5-15	71	10.9	64	11.1	63	11.0	.12	.22	.54
	Perceived personal control	4-16	71	9.6	64	9.9	64	10.0	.23	.04	.04

^aThe *P* values are computed from pairwise *t* tests.^bThe *P* values are from generalized linear mixed effect models.

This review provided a critical examination of three components of commercially available apps for diabetes self-management:

- (1) available features,
- (2) usability,
- (3) clinical efficacy, including harms.

This analysis crosses the difference between comprehensive evaluations of all forms of mHealth (including those that are patented or otherwise inaccessible to consumers) and evaluations that focus exclusively at functionality or accessibility of publicly accessible applications. Many mHealth researchers examined some of these elements in one analysis, such as summarizing data on commercially accessible apps or summarizing information on all mHealth innovations and evaluating the conformity of these innovations to patients' clinical guidelines, functions, and possible harm. ^{5}

Diabetes clinical treatment contributes to positive outcomes for the wellbeing. This paper discusses the existing research on facilitators of behavioral improvement in people with diabetes, which identifies methods and techniques that diabetes care professionals should consider. Research and scientific findings refer to the essential importance of taking into consideration guidelines' substance and context and incorporating problem solving and coordination strategies. Furthermore, careful exposure to human and group influences can enhance behavioral improvement. Such factors include environmental education, community infrastructure, civic participation, and co-occurrence of diet and mood disorders. Delivery of behavioral intervention via the Internet and mobile health (mHealth) technologies is an area of diabetes growth. Therapies in-person have been optimized for distribution over the internet and tend to be similarly successful, although some have established therapies primarily to be provided by technology. Mulvaney and

colleagues developed a web-based, self-guided behavioral intervention for adolescents with type 1 diabetes that included multimedia vignettes, coping and problem-solving skills training, and social networking. Of the most popular mHealth strategies produced are text-messaging motivating notes or reminders for diabetes activities.^{6}

Effective diabetes treatment starts with educating patients. To improve diabetes self-education and glycemic control, in-person visits with certified diabetes educators have been documented but not all patients have access to these sessions. Diabetes treatment requires a multidisciplinary, patient-centered collaborative strategy to achieve optimal outcomes. The usage of technologies and efficient handling of knowledge will shape an important part of the strategy, adapted in a tailored manner to the unique needs of each individual. From low-tech structured blood glucose self-monitoring to cutting edge closed loop insulin delivery systems, these approaches hold patients' potential for greater safety in achieving improved diabetes control. Such techniques will also help careers deliver more effective, fairly low-cost, reliable care.^{7}

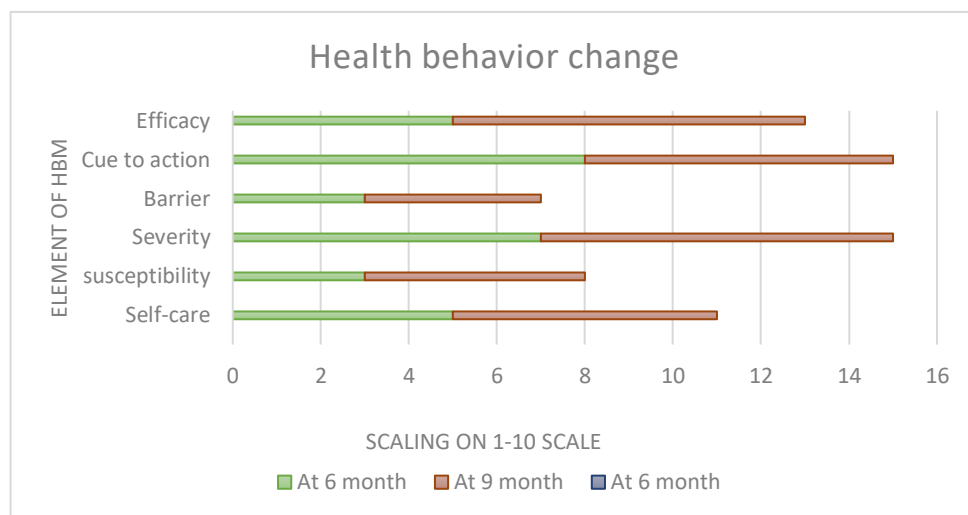
Diabetes is one of the world's most common long-term health disorders, impacting around 347 million people. About 90 percent of them have type 2 diabetes and are at high risk of having diabetes-related problems, such as strokes or heart attacks. Patient awareness services may minimize the likelihood of diabetes-related problems, but many patients with type 2 diabetes have never taken part in formal educational classes to know how to take care of themselves (self-management). Effective device usage may be one way to make more people know about self-management. Overall, there is proof that computer programs have a significant beneficial impact on blood sugar regulation, with an average increase of 2,3 mmol / mol or 0,2 percent in glycosylated hemoglobin A1c (HbA1c), a long-term metabolic regulation indicator. That was marginally better as we looked at experiments that used cell phones to perform their therapy – in the trials that used smart phones, the average increase in HbA1c was 5.5 mmol / mol or 0.5 percent. Many of the interventions reduced back significantly on cholesterol. None of the programs have helped to reduce weight or cope with depression. Established computer systems to assist adults with self-management with type 2 diabetes tend to have a slight beneficial influence on blood sugar regulation and cell phone applications seem to have a greater impact. There is no research to suggest that existing plans can assist with weight loss, stress or increased quality of life linked to fitness, but they do seem healthy.^{8}

RESULT

We listed 30 styles of analysis for the cohort. Such research covered a broad variety of strategies including short treatments focused on hospitals, Internet-based strategies, SMS-based intervention, Software and behavioral modification ratings that may be accessed from home and cell phone-related treatments. Participants were between 46 and 67 years.

We have observed that using of mHealth app change the behavior of diabetic patient in the positive manner. Health belief model is taken into consideration while drawing result and following change seen significantly in the behavior of patient during or after using mHealth App. Elements observed during assessing the behavior change are as follow:

1. Perceived susceptibility
2. Perceived severity
3. Perceived benefit
4. Perceived barrier
5. Cue to action
6. Self-efficacy



By analyzing the available data we have found that there is significant change in the behavior of diabetic patient in managing disease due to intervention of mHealth app. After using the app there is a significant enhancement in efficacy, cue to action, severity, susceptibility and self-care. But we found that there is no change in the Barrier aspect of HBM, it may be due to some socio-economic factor.

Secondly we have observed that most of the patient think that mHealth technology is not that much reliable and cost-effective due to absence of Doctor-Patient interaction, high starting cost and physical check-up. Major challenges in adopting mHealth technology involves: Connectivity of internet, Availability of required device to access the app among poor people. Most of the instruction are available in some different language which makes more difficult to understand. Biochemical measurement of glucose cannot be measure online and most of the patient don't know how to measure glucose level using glucometer.

DISCUSSION

Diabetes is one of the most prevalent long-term health disorders globally, impacting about 347 million people. About 90% of them suffer from type 2 diabetes and are at serious risk of experiencing problems linked to diabetes such as strokes or heart attacks. Patient education programs can reduce the risk of complications related to diabetes, but many people with type 2 diabetes have never attended structured training programs to learn how to care for themselves (self-management) ^[9]. In addition, cell phone applications seem to have a larger influence to help adults in self-management. There is no evidence to show that current programs can help with weight loss, depression or improved quality of life related to health, but they do seem safe.

Optimal safety results for people with diabetes include the development, operation and management of multiple and complex lifestyle habits. Unlike other diseases, diabetes treatment practices are often exempt from overt medical intervention and may not be entirely compliant in reaction to fluctuations in blood glucose rates, ranging from hour to hour or day to day. It can also be remembered that certain external variables that are more challenging (or impossible) to alter in controlling diabetes and consequences may become obstacles to all the strongest attempts to improve behavior.

FUTURE PERSPECTIVES

- In all clinical encounters consider teaching problem solving. Problem solving is an acquired skill with documented benefits on diabetes behavior management and health outcomes. Teach a simple method to identify problems, set goals, brainstorm solutions, and implement and assess a solution.
- Go beyond education and consider the recommendations for behavior change on multiple components. Which involve taking in other providers and people from the group and maintaining respect and improving child literacy and numeracy.
- Rarely give a 'one-size-fits-all' recommendation, but instead offer a recommendation that takes into account the age, gender, ethnicity, community infrastructure and perceptions of PWD diabetes;
- Psychological considerations panel that may hinder the capacity of PWD to adopt and support guidelines regarding improvements in behavior. These include consideration of disordered eating or eating disorder, depressive symptoms and distress from diabetes, and (immediate and long-term) diabetes-related concerns and fears.

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