Kidney Early Evaluation Program, Screen for obesity and systemic hypertension in Mexican children

- Kidney Day 2019
- Hospital Juarez de Mexico, Mexico City
- March 18 to 30th, 2019

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World Kidney Day

Aims

- Hospital Juarez de Mexico established in 1847 serving the poorest population in the country.

- Screen children for kidney disease, hypertension and/or obesity from the poorest economical level in Mexico and help parents/caregivers to know how kidney disease affects health and the impact it may have if it is not detected early.

IPNA's mission and vision followed by World Kidney Day Initiative

- Objectives:

- Use strategies for early detection of kidney disease among general physicians and/or pediatricians increasing knowledge for people to empower and improve kidney disease networking

- Increase interest in pediatric residents and medical students to get them involved in pediatric nephrology as a medical career in clinical and research fields.

Methodology

- Use Kidney Early Evaluation Program(KEEP) instrument to screen for kidney disease, obesity and systemic hypertension in high risk children

- Objective Population: Children 0-18 years with high risk factors.
- Inclusion criteria
  - Prematurity
  - Obesity
  - Family history of Chronic Kidney Disease
  - History of acute kidney injury
  - Recurrent Urinary Tract Infection(UTI)
  - Diabetes mellitus (Type I or II)

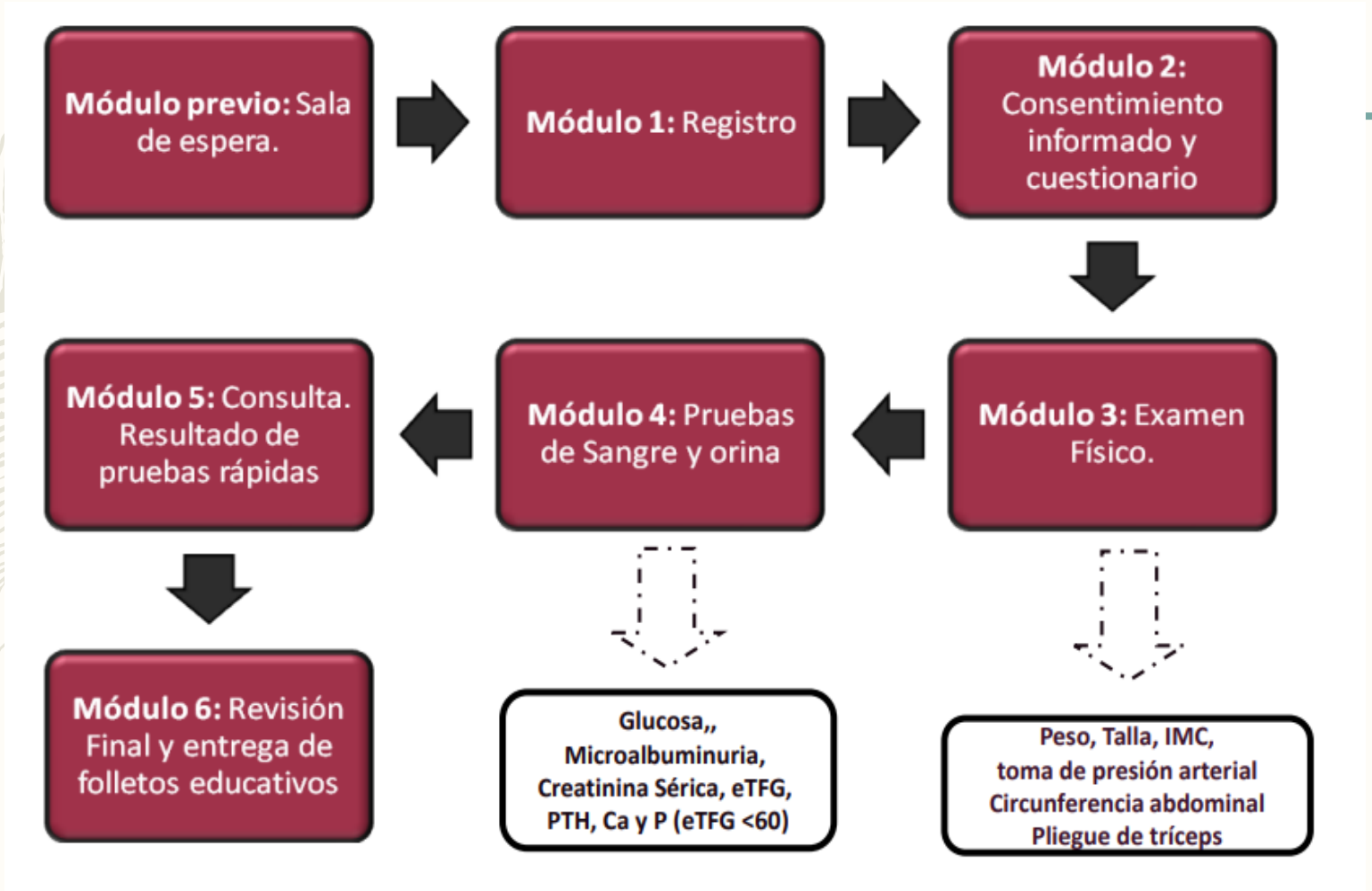
Procedures

- Meassure microalbuminuria/proteinuria/hematuria/serum creatinine/weight/height/blood pressure in those high risk children that show up for the screening program previous signature of consents and asent letters.
- Give panflets, information about kidney disease and how to prevent it.
- Videoconference (10min) about kidney disease and how organisations such as IPNA are involved in the process of education for health professionals and communities to increase early detection of kidney disease and improve childrens health for a better future as adults.
- Develop a website with information linked to IPNAs website and generate videos and information about kidney disease and how to prevent it(in Spanish with understandable language for people, not medical technicisms) on going
- Follow up appointment for a comprehensive explanation of the results to each patient, and in the case of kidney disease start full workup.
- Develop an application for smartphones to keep uploading information about kidney disease and increase networking of children and parents with or without kidney disease, share tips or advices on how to improve kidney and overall healthy lifestyles on going

Activities

- Pre-campaign starts on February 18th (phone calls to set an appointment)
- Campaign Day (March 23rd 2019) started at 8am and last patient received at 2pm.
- Video talk on a meeting room fitting aprox 30 seated people 10min duration.
- Nutritional live talk with a nutriologist aprox 30min in a meeting room fitting aprox 30 seated people.

Site organization



	Age group				
	<3 y	3-5 years	6-12 years	13-18 years	All ages
N	7	24	46	26	103
Age (median months, 25th ,75thpercentile)	26 (24, 36)	57 (50, 67)	117 (115, 144)	185 (174, 204)	117 (69,161)
Gender (n)					
Male	4	14	25	13	56
Female	3	10	21	13	47
Risk Factors (n)					
Family history of Hypertension	0	6	8	10	24
Family history of Diabetes mellitus	2	4	6	4	16
Family history of CKD	2	10	18	14	44
Prematurity (Mean WGA)	4(32)	8(30)	14(34.5)	2(36.5)	28(33)
Obesity	1	2	20	6	29
Hypertension	2	3	19	6	30
eGFR (ml/min/1.73m^2) (median, 25th ,75thpercentile)	67 (49,88)	108 (82, 134)	128 (96, 160)	140 (116, 167)	122 (88, 154)
Urinary findings (n)					
Hematuria	1	2	3	3	9
Microalbuminuria 30-300mg/g	2	2	4	2	10
Albuminuria > 300 mg/g	-	1	-	-	1
Leukocyturia	-	1	2	2	5
Hematuria+microalbuminuria	1	1	1	-	3
Microalbuminuria+leukocyturia	-	1	1	-	2
Hematuria+leukocyturia	-	1	2	1	4
Hematuria+leukocyturia+microalbuminuria	-	1	2	1	4

	<3 y	3-5 years	6-12 years	13-18 years	All ages
Blood pressure					
Systolic (mmHg) (median, 25th ,75thpercentile)	80 (80, 90)	85 (80,90)	102 (95, 110)	103 (100, 110)	97 (90, 108)
Diastolic (mmHg) (median, 25th ,75thpercentile)	46 (46, 50)	54 (50,60)	65 (60, 70)	69 (60, 80)	62 (58, 70)
Pre- hypertension (n)	2	4	16	6	28
Hypertension (n)	-	1	7	2	10
Anthropometry					
Z IMC (median, 25th ,75thpercentile)	0.00 (-1.2, 1.3)	-0.39 (-1.14, 0.22)	0.462 (-0.33, 1,46)	0.46 (0.02, 1.08)	0.3 (-0.49, 1.15)
Z length-height/age (median, 25th ,75thpercentile)	-0.90 (-1.24, 1.04)	-0.83 (-1.16, -0.89)	-0.03 (-0.56, 0.63)	-0.90 (-1.01, -0.40)	-0.49 (-1.01, 0.05)
Chronic kidney disease (n)					
CKD 1	1	2	5	5	13
CKD 2	-	2	5	0	7
CKD 3	4	2	0	0	6

Results

- N =103

Creatinine Clearance(Schwartz)	N(M:F)
<60ml/min/1.73m^{2}BSA	6(4:2)
60-89ml/min/1.73m^{2}BSA	20(10:10)
Albumin:Creatinine	**n**
30-300mg/g	10(2:8)
>300mg/g	1(1:0)
	n
Hematuria	9(3:0)
>2 abnormalities	**n**
60-89ml/min/1.73m^{2}BSA + hematuria	2 (1:1)
60-89ml/min/1.73m^{2}BSA + microalbuminuria	4 (1:3)
<90ml/min/1.73m^{2}BSA + microalbuminuria + hematuria	1(1:0)

Estimated Glomerular Filtration

CrClearance (ml/min/1.73m^{2}BSA)	Male	Female	Total
>90	42	35	77
60-89	10	10	20
30-59	4	2	6
15-29	0	0	0
<15	0	0	0
Total	56	47	103

Results

	n
Hiperfiltration CrCl (>120ml/min/1.73m^{2}BSA)	7
Obesity	7
High blood pressure	10
Obesity + High blood pressure	2
High blood pressure + Creatinine Clearance <60ml/min/1.73m2BSA	2


Día Mundial del Riñon
Realizado en colaboración con:
SALUD
IPNA


NO TOCAR
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CONSULTA


Módulo
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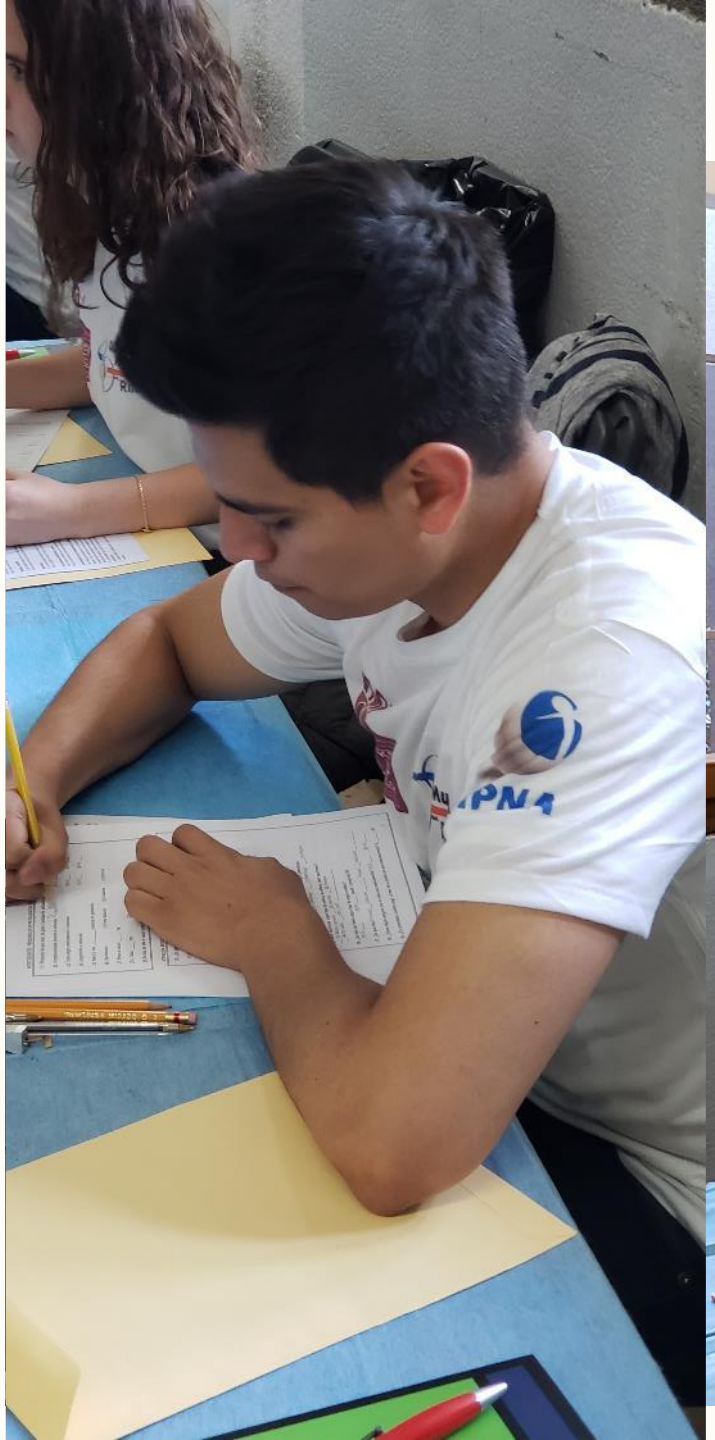
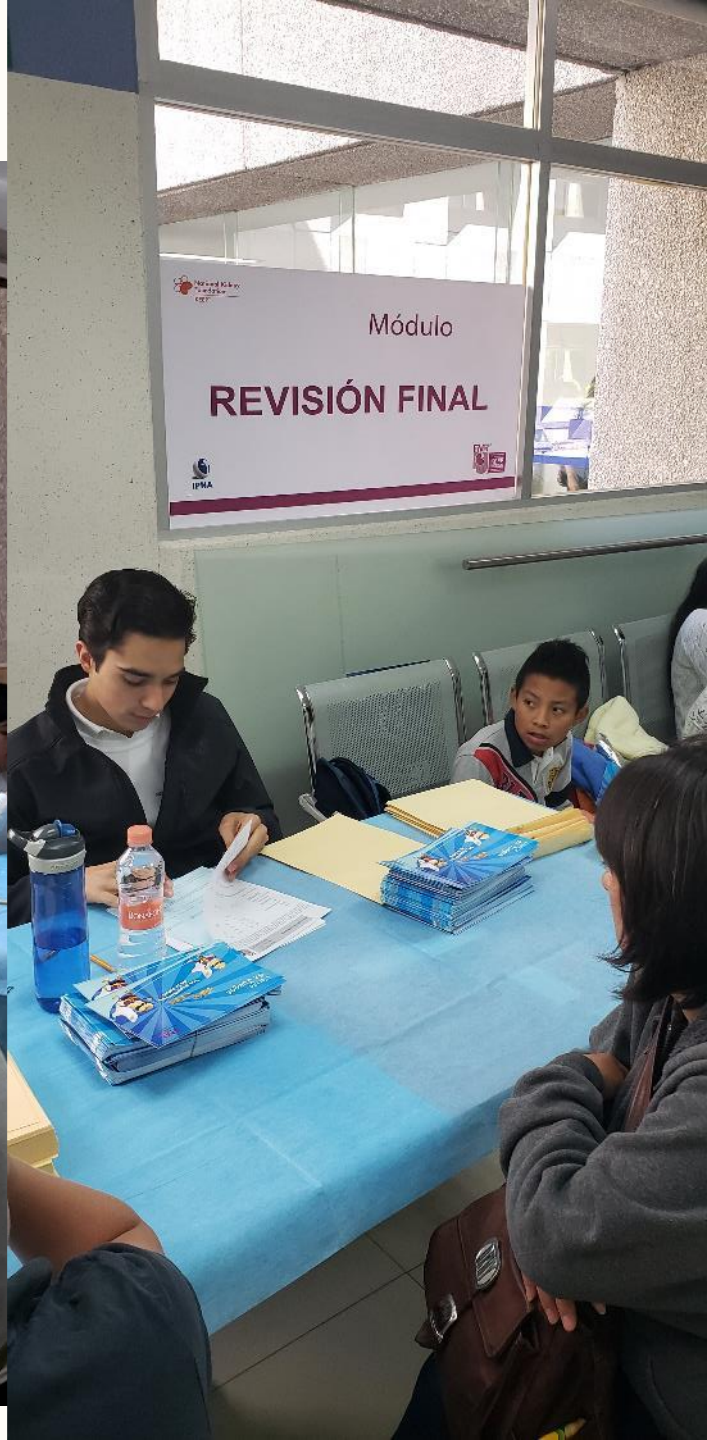



ZONA DE SEGURIDAD
Módulo
CONSENTIMIENTO INFORMADO Y CUESTIONARIO
IPNA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REVISIÓN FINAL
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EVACUACION


Módulo
CONSENTIMIENTO
INFORMADO Y
CUESTIONARIO


CIRUGIA
GENERAL
AVISO IMPORTANTE
TODO PACIENTE QUE
ACUDA A CONSULTA
DEBE TRAER SIEMPRE
LOS SIGUIENTES
DOCUMENTOS:
CURP
CEDULA DE SEGURO
POPULAR
TARJETA DEL INT
COMPROBANTE DE
DOMICILIO
AMBIDERM


FAVOR DE
NO TOCAR
PEDIATRÍA
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ROMPASE EN CASO
DE INCENDIO


Módulo
PRUEBAS DE SANGRE
Y ORINA
12
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GENERAL


Sanitas
AMBIDERM


AMBIDERM
CLINITEK Status+
SIEMENS


El viaje del
Rey
Barriguitas
NutriEdu.


RUTA DE
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HOSPITAL
AGOSTO 1847
2017
1847
años
Día
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del
Riñon
Realizado
SIPASA

Follow up

- Pending
  - 28 Pre hypertensive patients on lifestyle change, nutritional advice by pediatrician
  - 3 High blood pressure children on treatment
  - 3 CKD waiting for biopsy
  - 1 Hipophosphatemic rickets
  - 1 Alport
- Patient driven App in development
- Screening web tool in development