THE VCARE STORIES AND PROMISE

vCARE
VIRTUAL COACHING ACTIVITIES
FOR REHABILITATION IN ELDERLY

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Osakidetza

Gurutzeta Ospitalea
Hospital Cruces

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PARKINSON'S DISEASE PILOT PHASE

PRESENTATION AND FINAL RESULTS

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PARKINSON'S
DISEASE

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vCare for PD patients

Parkinson's Disease

- Chronic disease
- Slow and progressive disease
  - Motor symptoms
    - slow movement
    - Tremor
    - Rigidity
    - gait impairment
  - Non-motor symptoms
    - Cognitive impairment
    - Neuropsychiatric symptoms
    - Autonomic dysfunction
    - Sleep disorders
    - Constipation
    - Urinary disturbances

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vCare for PD patients

PD is the second most prevalent neurodegenerative disease after Alzheimer's disease.

Many of the symptoms are difficult for clinicians to monitor

Usually appear and get worse when a person is at **home** and/or during the night.

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Current health situation

High prevalence of PD

⚠️ Limitation of resources in the public health systems:

Spanish/Basque Healthcare is based on patients' attending standard clinical visits to a neurologist (1 or 2 times per year).

The neurologist attends:

- ✓ the patient's neurological status
- ✓ Controls his or her pharmacological treatment
    (motor and neuropsychiatric symptoms).
- ✗ does not treat other critical needs
- ✗ physical and cognitive rehabilitation
- ✗ risk factor monitoring,
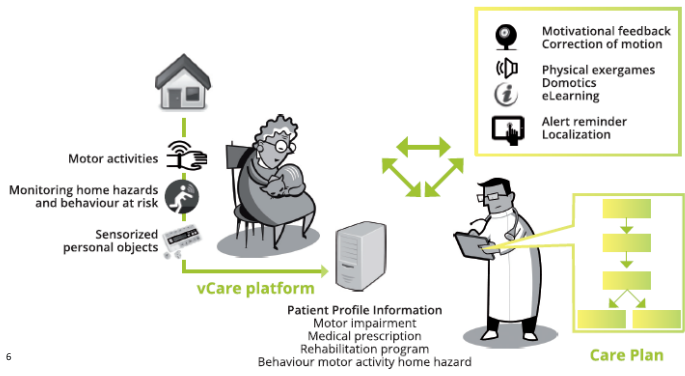- ✗ social support

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vCare for PD patients

The vCare system

- ✓ **Virtual rehabilitation tool**
- ✓ **Coaching** and **individualized** daily life monitoring
- ✓ Adapted to each patient
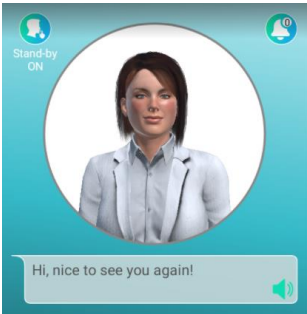
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vCare for PD patients

The vCare is a virtual coach that involves:

✓ **physical rehabilitation**

✓ **cognitive rehabilitation**

✓ **daily life** monitoring system

Hi, nice to see you again!

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vCare for PD patients

Objective

To evaluate:

-the Pilot phase of the vCare

-the usability

-satisfaction level with vCare system

Promote an active lifestyle

Risk prevention

8

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vCare for PD patients

PD vCare goals	PD outcome measures
Improvement of the quality of life	EUROQol-5D
Reduction of risk factors	Daily nº of steps Time devoted to the exercise (motor and cognitive rehabilitation) E-learning videos
Adherence to the home care and rehabilitation plan	Access to the vCare platform and/or interaction with the virtual coach Total number of times the vCare interacts with the patient
Personalization and health promotion	Adaptation of the pathways Adaptation of the daily number of steps

9

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vCare for PD patients

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Personalization and health promotion	Adaptation of the pathways Adaptation of the daily number of steps

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vCare for PD patients

Activities and devices

A1	A2	A3
Home- based motor activities	Coaching for an active lifestyle	E-learning

A4	A11
Home-based cognitive games	Falls prevention

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vCare for PD patients

Activities and devices

A1	A2	A3
Home- based motor activities	Coaching for an active lifestyle	E-learning

A4	A11
Home-based cognitive games	Falls prevention

TABLET   SET TOP BOX + CAMERA   Beurer AS97   WRIST MOVEMENT SENSOR

STAT-ON   RASPBERRY   PRESENCE SENSORS

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vCare for PD patients

Devices

RECRUITMENT

20 PD patients randomly assigned to:

-Intervention group (10 patients)

-Congrol group (10 patients)

RECRUITMENT

Recruitment

Patient's role | Clinician's role

- Inclusion / exclusion criteria
- Informed Consent
- Clinical + Cognitive Evaluation
- Professional portal + Game selection
- vCare motor activities
- vCare cognitive activities
- Session supervision
- Feedback SUS + UEQ + interview
- Evaluation forms

Inclusion criteria:
- Patients diagnosed with PD (Brain Bank of London)
- Age > 60 years
- Patients with scores higher than 60% on the daily life activities scale of Schwab and England
- Presence of motor fluctuations perceived by the patient
- Hoehn and Yahr stage 1 and 4
- Willingness to interact with technological devices
- Internet connection at home
- TV screen with HDMI port at home

Exclusion criteria:
- Atypical Parkinsonism
- dementia
- Specifically exclude bedridden or dependent patients
- other chronic diseases such as heart failure, severe lung or liver problems
- severe psychiatric problems
- poor adherence prior to pharmacological or rehabilitative treatment
- Unable to understand and comply with protocol and/or give informed consent

All research procedures were in accordance with the Declaration of Helsinki.
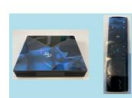All patients participated voluntarily, and they signed the informed consent before participation.

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RECRUITMENT

Recruitment

Patient's role | Clinician's role

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- Informed Consent
- Clinical + Cognitive Evaluation
- Professional portal + Game selection
- vCare motor activities
- vCare cognitive activities
- Session supervision
- Feedback SUS + UEQ + interview
- Evaluation forms

Clinical Evaluation
- Quality of life (EuroQol-5D).
- Cognitive general status (MoCA)
- Motor symptoms (UPDRS) part I, II, III, and IV.
- Functional disability (H&Y).
- Activities of daily living (ADL).

Usability and satisfaction (vCare group).
- System usability scale (SUS)
- User Experience Questionnaire

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Clinical pathway

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INTERVENTION

Time 0
1st patient started (26/10/2021)
Last patient started in February

Time 1
Last week of May 2022

BASAL Pre intervention

Between 3 and 6 months

10 PD vCare group
10 PD control group

Post intervention

Clinical evaluation

Clinical evaluation

First week
STAT-ON

Last week
STAT-ON
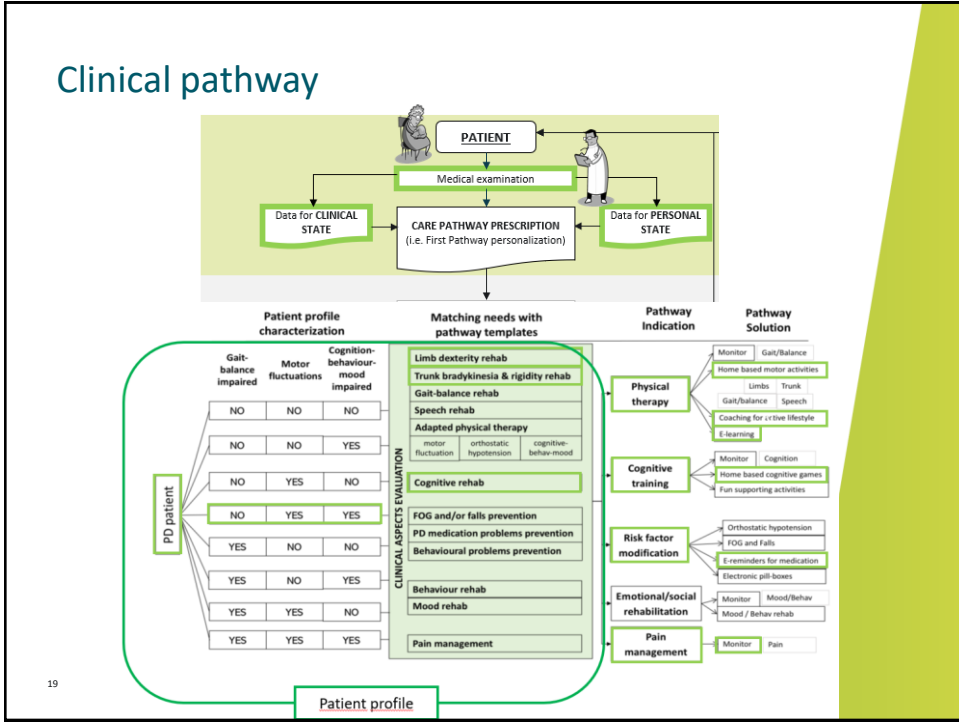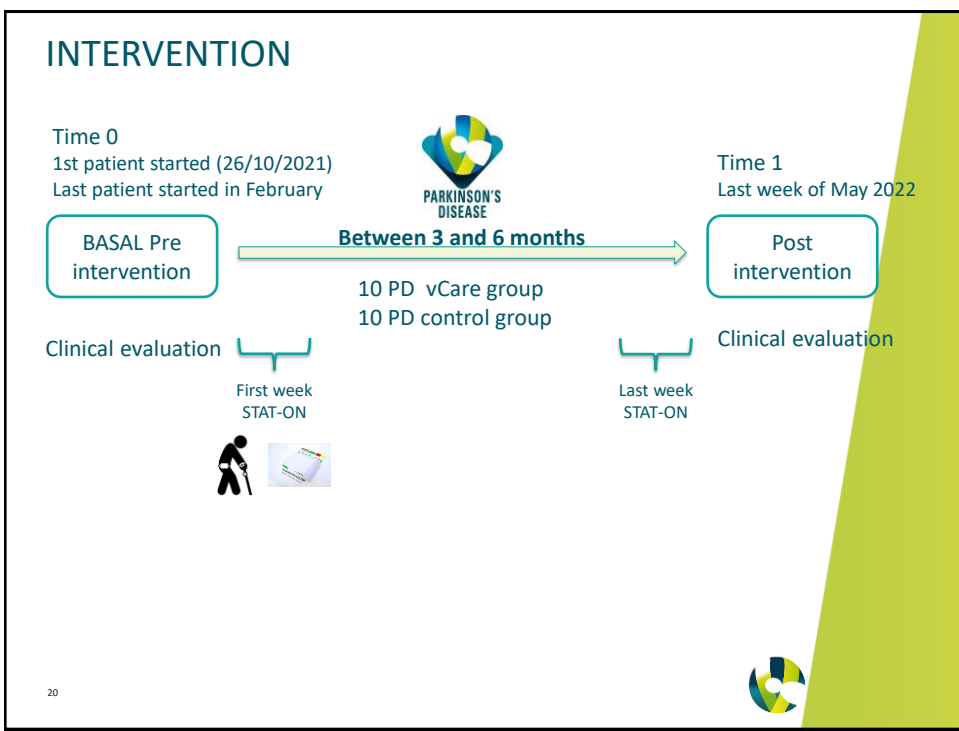
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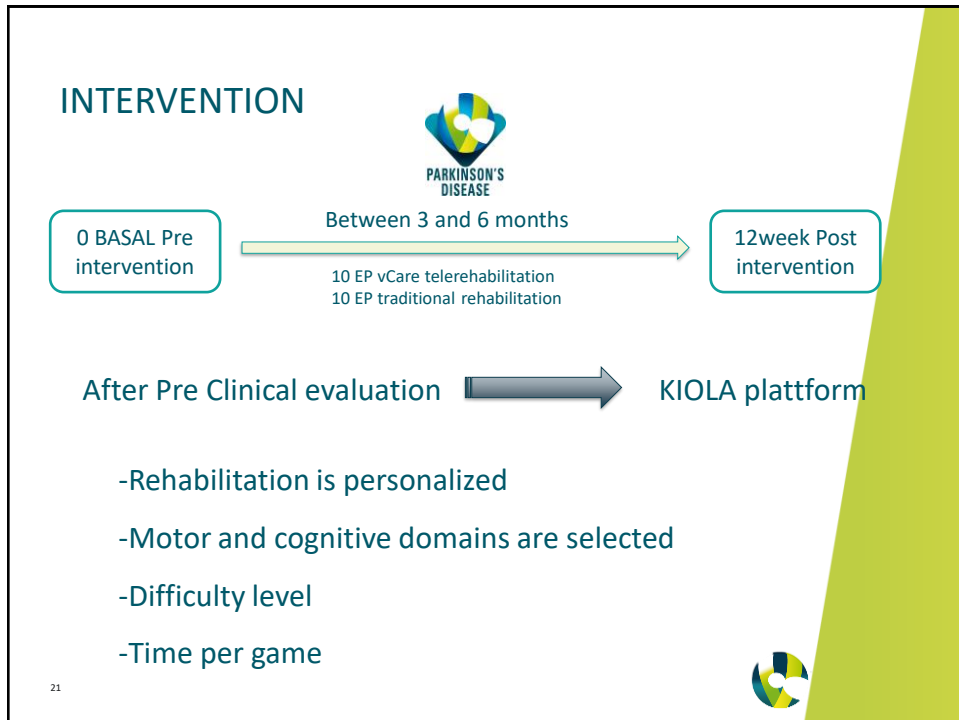
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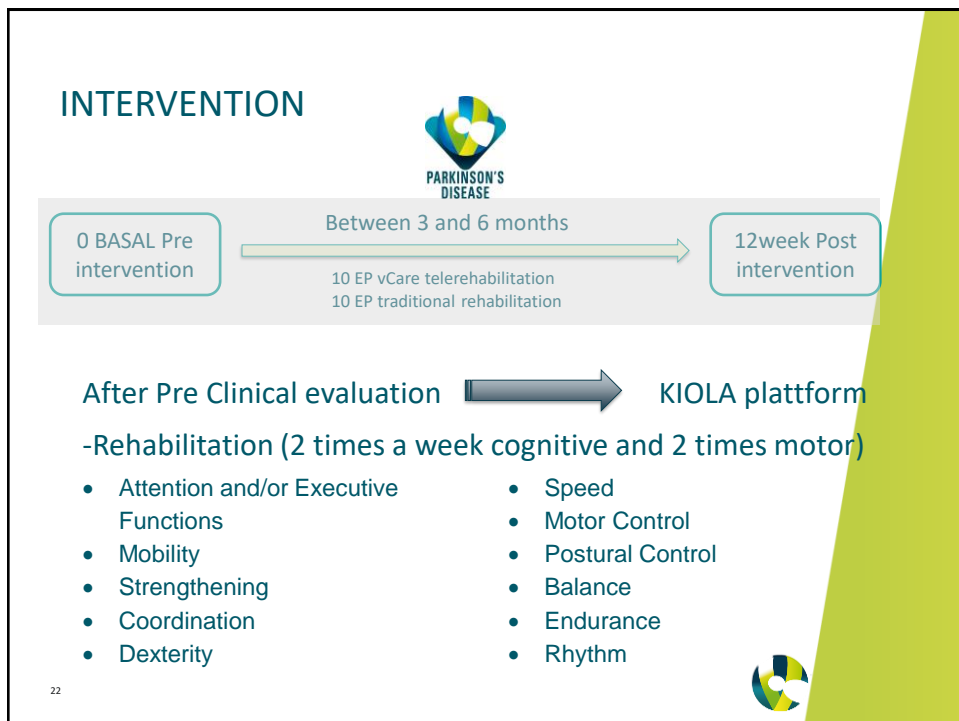
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INSTALLATION PROCESS

PD=10

vCare Bizkaia's tour

Santurce, 10.2 km (n=3)
Portugalete, 9.8 km (n=1)
Erandio, 6.8 km (n=1)
Getxo, 12.3 km (n=2)
Bermeo, 38.7 km (n=1)
Sanfuentes, 14 km (n=1)
Llodio, 25.5 km (n=1)

OSA/BCB

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OSA/BCB PD PILOT. PD VCARE GROUP=10 /CONTROL GROUP=10

PATIENTS' CHARACTERIZATION

70%   30%

Start: November 2021
End: May 2022

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OSA/BCB PD PILOT. PD VCARE GROUP=10 /CONTROL GROUP=10

PATIENTS' CHARACTERIZATION

	vCare group M (SD)	Control group M (SD)	U Mann Whitney
Age (years)	64.5 (7.9)	69.1 (3.5)	0.105
Education (years)	13.7 (4.4)	12 (4.5)	0.684
Sex (% of males)	70	70	-

70%   30%

Start: November 2021
End: May 2022

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OSA/BCB PD PILOT. PD VCARE GROUP=10 /CONTROL GROUP=10

PD MONITORING DURATION

Start: November 2021
End: May 2022

PD vCare group	active weeks
PD01	23
PD02	20
PD03	23
PD04	12
PD05	18
PD06	10
PD07	12
PD08	16
PD09	9
PD10	9

PD patients were monitored an average of **15.2 weeks**

23 weeks were the longest period of monitoring

9 weeks were the shortest

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PD CLINICAL RESULTS

	vCare group M (SD)			Control group M (SD)		
	Pre	Post	Wilcoxon	Pre	Post	Wilcoxon
MOCA	23.6 (2.7)	25.4 (2.7)	-2.4*	23.5 (3.4)	24.1 (2.9)	0
ADL	65.7 (19.9)	85 (7.1)	-1.9[MS]	81.2 (6.4)	70.0 (22.7)	-1.1
UPDRS I	1.8 (1)	2.3 (1.5)	-1.1	2.3 (1.8)	3.0 (1.8)	-.8
UPDRS II	11.2 (4.4)	9.6 (4.1)	-1.3	15.4 (5.4)	15.2 (5.8)	-.5
UPDRS III	24.2 (10.6)	25 (11.3)	-.2	31.2 (11.6)	29.9 (10.8)	-1.6
UPDRS IV	5.7 (3.9)	4 (2.9)	-1.4	7.1 (3.6)	6.5 (2.3)	-.4
H&Y	1.9 (0.5)	2.1 (.5)	-1.1	2.3 (0.6)	2.4 (0.5)	-.6

Note: *<.05; MS: Marginally significant. MoCA: Montreal Cognitive Assessment; ADL: Schwab and England Activities of Daily Living; UPDRS: Unified Parkinson's Disease Rating Scale; H&Y: Hoehn and Yahr scale.

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PD CLINICAL RESULTS

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Note: *<.05; MS: Marginally significant. MoCA: Montreal Cognitive Assessment; ADL: Schwab and England Activities of Daily Living; UPDRS: Unified Parkinson's Disease Rating Scale; H&Y: Hoehn and Yahr scale.

✔ Significant improvement of cognitive status

✔ Better capabilities of daily living in the PD vCare group

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PD CLINICAL RESULTS

Quality of Life

	vCare group M (SD)			Control group M (SD)		
	Pre	Post	Wilcoxon	Pre	Post	Wilcoxon
EQ5D Mobility	2.6 (.5)	1.2 (.9)	-2.6**	1.8 (1.2)	1.9 (1.2)	0
EQ5D Self-care	2 (.8)	.8 (.8)	-2.6**	1.6 (1.0)	1.6 (1.0)	0
EQ5D Daily activities	2.1 (.6)	.9 (.7)	-2.6**	1.8 (1.2)	1.9 (1.2)	0
EQ5D Pain/Discomfort	3.3 (.7)	1.1 (1.2)	-2.9**	1.5 (1.3)	1.5 (1.3)	0
EQ5D Anxiety/Depression	2 (1.4)	1 (.7)	-1.7	1.3 (1.2)	1.4 (1.2)	0
EQ5D Perceived Health	57.8 (21.8)	59.5 (16.)	-.3	42.6 (21.8)	42.6 (21.7)	0

Note: *<.05; **<.01; EQ5D: EuroQoL 5 Dimensions.

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PD CLINICAL RESULTS

Quality of Life

Quality of life of PD vCare group
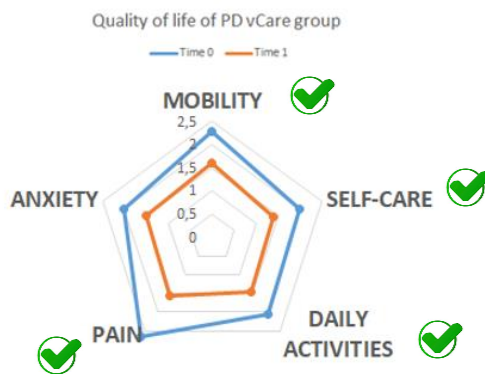
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PD VCARE MONITORIZATION

Steps data recorded by the STAT-ON for PD patients

PD vCare group	Pre-intervention		Post-intervention	
	Mean of walking minutes per day	Mean of number of steps per day	Mean of walking minutes per day	Mean of number of steps per day
PD01	98,3	11999,8	88,7	9539,3
PD02	70,3	7868,8	45,7	4497
PD03	71,1	7202,6	50,4	6205,9
PD06	35	3439	27,8	2910,9
PD07	57,6	4901	67,3	6210,3
PD08	25,1	2316,9	40	4080,8
PD09	121,9	13842,2	84	9818,2
PD10	72,3	7925,6	103,7	12650,5
MEAN	69,0	7437,0	63,5	6989,1
SD	31,4	3981,3	26,7	3361,1

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PD VCARE MONITORIZATION

Monitorization of PD motor symptoms

✅ Fluidity: Improvement in gait

✅ Step lenght: quality of the patient's walking

✅ Hours in OFF

✅ Hours in ON

✅ Dyskinesia

  Freezing of gait

32   (mean differences greater than 5% and/or $p<0.05$)

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PD VCARE MONITORIZATION

Presence monitorization of PD

MYSPHERA devices

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PD VCARE MONITORIZATION

Presence monitorization of PD

Time in bedroom

Time in bathroom

Time in living room

Time in Kitchen

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PD VCARE MONITORIZATION

Parameters registered by the PD vCare system

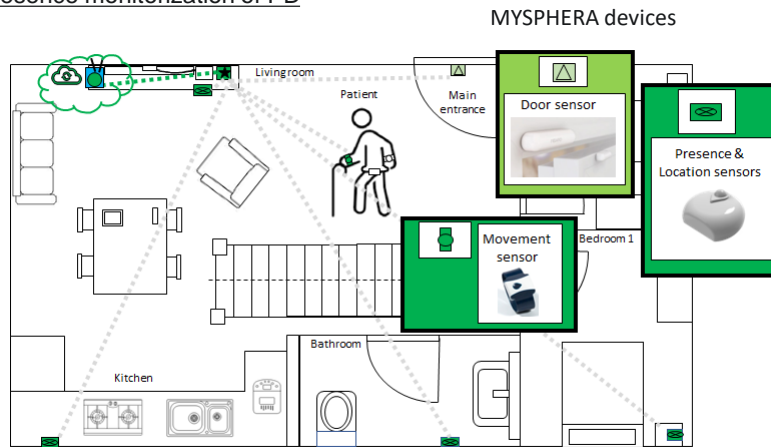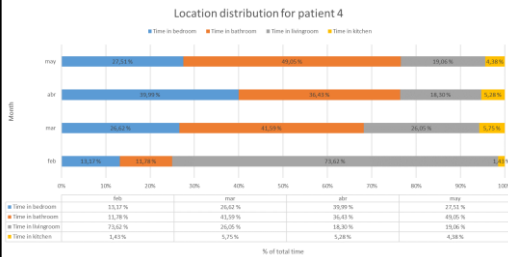| PD vCare group	accesses to the vCare app			e-learning access		VC_patient_interactiones_Adherence			Activity_overview		pathway_adaptation	
	active weeks	Mean	Adherence	Total videos watched	Adherence	total reminders	Mean	Adherence	Mean	Adherence	Mean	Adherence
PD01	23	4,22	100%	2	33,33%	142	3,94	95,23%	0,11	61,35%	1,04	100,00%
PD02	20	4,80	100%	6	100,00%	155	4,31	100,00%	0,10	49,10%	1,04	100,00%
PD03	23	3,78	100%	1	10,00%	60	1,67	100,00%	0,05	26,90%	1,06	100,00%
PD04	12	1,58	100%	0	0,00%	19	0,53	100,00%	0,06	8,43%	1,07	100,00%
PD05	18	4,11	100%	5	83,33%	48	1,33	22,22%	0,06	17,95%	1,06	100,00%
PD06	10	2,80	100%	2	33,33%	22	0,61	100,00%	0,06	12,71%	1,02	100,00%
PD07	12	2,42	100%	0	0,00%	47	1,31	87,50%	0,06	19,71%	1,00	100,00%
PD08	16	5,38	100%	6	100,00%	93	2,58	100,00%	0,06	27,93%	1,02	100,00%
PD09	9	1,75	100%	1	10,00%	14	0,39	100,00%	0,05	8,04%	1,06	100,00%
PD10	9	4,78	100%	6	100,00%	53	1,47	100,00%	0,05	20,00%	1,05	100,00%

Stand-by ON

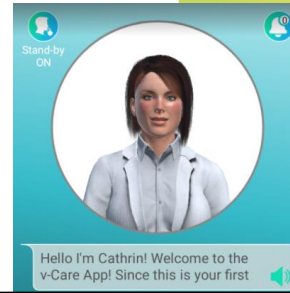Hello I'm Cathrin! Welcome to the v-Care App! Since this is your first

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PD VCARE MONITORIZATION

Parameters registered by the PD vCare system

PD vCare group	accesses to the vCare app			e-learning access		VC_patient_interactiones_Adherence			Activity_overview		pathway_adaptation	
	active weeks	Mean	Adherence	Total videos watched	Adherence	total reminders	Mean	Adherence	Mean	Adherence	Mean	Adherence
PD01	23	4,22	100%	2	33,33%	142	3,94	95,23%	0,11	61,35%	1,04	100,00%
PD02	20	4,80	100%	6	100,00%	155	4,31	100,00%	0,10	49,10%	1,04	100,00%
PD03	23	3,78	100%	1	10,00%	60	1,67	100,00%	0,05	26,90%	1,06	100,00%
PD04	12	1,58	100%	0	0,00%	19	0,53	100,00%	0,06	8,43%	1,07	100,00%
PD05	18	4,11	100%	5	83,33%	48	1,33	22,22%	0,06	17,95%	1,06	100,00%
PD06	10	2,80	100%	2	33,33%	22	0,61	100,00%	0,06	12,71%	1,02	100,00%
PD07	12	2,42	100%	0	0,00%	47	1,31	87,50%	0,06	19,71%	1,00	100,00%
PD08	16	5,38	100%	6	100,00%	93	2,58	100,00%	0,06	27,93%	1,02	100,00%
PD09	9	1,75	100%	1	10,00%	14	0,39	100,00%	0,05	8,04%	1,06	100,00%
PD10	9	4,78	100%	6	100,00%	53	1,47	100,00%	0,05	20,00%	1,05	100,00%

✔ High adherence with vCare system

✔ Most of them 100% of adherence

Stand-by ON

Hello I'm Cathrin! Welcome to the v-Care App! Since this is your first

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PD VCARE MONITORIZATION

Parameters registered by REHABILITY vCare

Motor rehabilitation

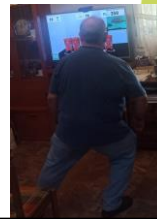| PATIENT	START DATE	END DATE	TOTAL SCORE	MEAN SCORE	PRESCRIBED SESSIONS	COMPLETED PLAYED GAMES	PLAYED TIME (minutes)	AVERAGE TIME (minutes)	%Adherence to Vcare Motor games
PD01	01/11/2021 16:36	18/05/2022 13:45	912140,00	14711,94	279,00	261,00	778,12	12,55	93,55
PD02	18/11/2021 17:41	23/03/2022 14:29	295960,00	6165,83	110,00	97,00	241,78	5,04	88,18
PD03	25/11/2021 11:59	18/05/2022 12:50	1006075,00	10479,95	303,00	290,00	756,82	7,88	95,71
PD04	29/11/2021 11:40	04/05/2022 17:59	288505,00	8243,00	101,00	92,00	306,72	8,76	91,09
PD05	16/12/2021 12:01	19/05/2022 10:56	693095,00	11001,51	242,00	219,00	483,70	7,68	90,50
PD06	22/02/2022 14:09	24/03/2022 19:09	276410,00	39487,14	29,00	28,00	50,85	7,26	96,55
PD07	22/02/2022 10:29	12/05/2022 14:49	1154435,00	27486,55	110,00	100,00	167,67	3,99	90,91
PD08	23/02/2022 10:29	06/06/2022 11:26	496490,00	11546,28	146,00	141,00	306,48	7,13	96,58
PD09	24/02/2022 10:33	19/05/2022 11:25	81850,00	2923,21	93,00	86,00	174,92	6,25	92,47
PD10	24/02/2022 14:00	05/05/2022 13:12	128365,00	4754,26	91,00	83,00	108,13	4,00	91,21

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PD VCARE MONITORIZATION

Parameters registered by REHABILITY vCare

Motor rehabilitation

PATIENT	START DATE	END DATE	TOTAL SCORE	MEAN SCORE	PRESCRIBED SESSIONS	COMPLETED PLAYED GAMES	PLAYED TIME (minutes)	AVERAGE TIME (minutes)	%Adherence to Vcare Motor games
PD01	01/11/2021 16:36	18/05/2022 13:45	912140,00	14711,94	279,00	261,00	778,12	12,55	93,55
PD02	18/11/2021 17:41	23/03/2022 14:29	295960,00	6165,83	110,00	97,00	241,78	5,04	88,18
PD03	25/11/2021 11:59	18/05/2022 12:50	1006075,00	10479,95	303,00	290,00	756,82	7,88	95,71
PD04	29/11/2021 11:40	04/05/2022 17:59	288505,00	8243,00	101,00	92,00	306,72	8,76	91,09
PD05	16/12/2021 12:01	19/05/2022 10:56	693095,00	11001,51	242,00	219,00	483,70	7,68	90,50
PD06	22/02/2022 14:09	24/03/2022 19:09	276410,00	39487,14	29,00	28,00	50,85	7,26	96,55
PD07	22/02/2022 10:29	12/05/2022 14:49	1154435,00	27486,55	110,00	100,00	167,67	3,99	90,91
PD08	23/02/2022 10:29	06/06/2022 11:26	496490,00	11546,28	146,00	141,00	306,48	7,13	96,58
PD09	24/02/2022 10:33	19/05/2022 11:25	81850,00	2923,21	93,00	86,00	174,92	6,25	92,47
PD10	24/02/2022 14:00	05/05/2022 13:12	128365,00	4754,26	91,00	83,00	108,13	4,00	91,21

✅ High adherence to motor rehabilitation

✅ Mean adherence= 92.7%,

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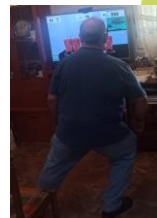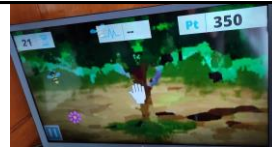# PD VCARE MONITORIZATION

Parameters registered by REHABILITY vCare

Cognitive rehabilitation through the tablet

PATIENT	START DATE	END DATE	TOTAL SCORE	MEAN SCORE	PRESCRIBED SESSIONS	COMPLETED PLAYED GAMES	PLAYED TIME (minutes)	AVERAGE TIME (minutes)	%Adherence to Vcare Motor games
PD01	02/11/2021 13:36	19/05/2022 12:28	2154498	55243,53846	244	244	544,88	13,97	100,00
PD02	23/11/2021 12:19	18/05/2022 13:08	1694610	24208,71429	532	517	994,18	14,20	97,18
PD03	25/11/2021 11:50	19/05/2022 12:28	1474934	35974	353	337	943,20	23,00	95,47
PD04	14/12/2021 17:08	05/05/2022 17:29	156857	10457,13333	83	78	190,97	12,73	93,98
PD05	16/12/2021 12:20	18/05/2022 18:10	483260	13423,88889	244	216	368,32	10,23	88,52
PD06	22/02/2022 14:38	26/05/2022 15:55	720471	15009,8125	272	272	464,82	9,68	100,00
PD07	23/02/2022 12:28	16/05/2022 12:48	293517	16306,5	121	121	222,95	12,39	100,00
PD08	24/02/2022 20:09	06/06/2022 11:17	472874	19703,08333	192	184	342,83	14,28	95,83
PD09	07/03/2022 11:26	18/05/2022 11:04	239815	12621,84211	98	98	167,35	8,81	100,00
PD10	10/03/2022 10:53	04/05/2022 21:57	501513	27861,83333	134	127	186,88	10,38	94,78

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PD VCARE MONITORIZATION

Parameters registered by REHABILITY vCare

Cognitive rehabilitation through the tablet

PATIENT	START DATE	END DATE	TOTAL SCORE	MEAN SCORE	PRESCRIBED SESSIONS	COMPLETED PLAYED GAMES	PLAYED TIME (minutes)	AVERAGE TIME (minutes)	%Adherence to Vcare Motor games
PD01	02/11/2021 13:36	19/05/2022 12:28	2154498	55243,53846	244	244	544,88	13,97	100,00
PD02	23/11/2021 12:19	18/05/2022 13:08	1694610	24208,71429	532	517	994,18	14,20	97,18
PD03	25/11/2021 11:50	19/05/2022 12:28	1474934	35974	353	337	943,20	23,00	95,47
PD04	14/12/2021 17:08	05/05/2022 17:29	156857	10457,13333	83	78	190,97	12,73	93,98
PD05	16/12/2021 12:20	18/05/2022 18:10	483260	13423,88889	244	216	368,32	10,23	88,52
PD06	22/02/2022 14:38	26/05/2022 15:55	720471	15009,8125	272	272	464,82	9,68	100,00
PD07	23/02/2022 12:28	16/05/2022 12:48	293517	16306,5	121	121	222,95	12,39	100,00
PD08	24/02/2022 20:09	06/06/2022 11:17	472874	19703,08333	192	184	342,83	14,28	95,83
PD09	07/03/2022 11:26	18/05/2022 11:04	239815	12621,84211	98	98	167,35	8,81	100,00
PD10	10/03/2022 10:53	04/05/2022 21:57	501513	27861,83333	134	127	186,88	10,38	94,78

✅ High adherence to motor rehabilitation

✅ Mean adherence= 96.6%

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PD VCARE USABILITY AND SATISFACTION

	vCare group M (SD)	
	Pre	Post
SUS	78.5 (10.4)	82.8 (13.3)
UEQ	103.3 (7.4)	104.2 (6.1)
Attractiveness	0.1 (0.5)	-0.1 (0.5)
Perspicuity	1.2 (0.5)	1.1 (0.3)
Efficiency	-0.8 (0.3)	-0.7 (0.8)
Dependability	-0.05 (0.4)	-0.2 (0.6)
Stimulation	1.6 (1.3)	1.1 (1.0)
Novelty	0.9 (0.8)	0.9 (0.7)

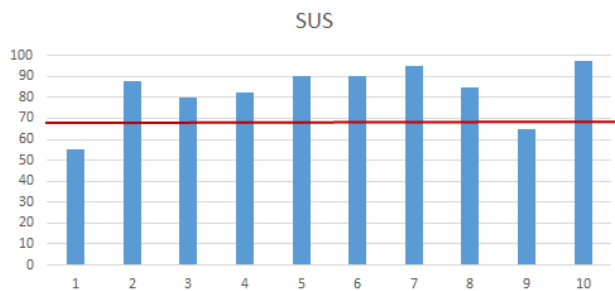*Note:* SUS: System Usability Scale; UEQ: User Experience Questionnaire

No significant differences were found in the usability and satisfaction results between the pre-post intervention data of PD vCare group

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PD VCARE USABILITY AND SATISFACTION

SUS scores for PD vCare group at post-intervention. Red horizontal lines indicate the limit of acceptability (i.e., 68 points)

✓ 8 PD patients out of 10 patients evaluated the vCare system with a SUS score greater than 68 points

✓ These results confirm the **intuitiveness** and the **overall ease use** of the vCare system

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PD VCARE USABILITY AND SATISFACTION

PD UEQ results post-intervention

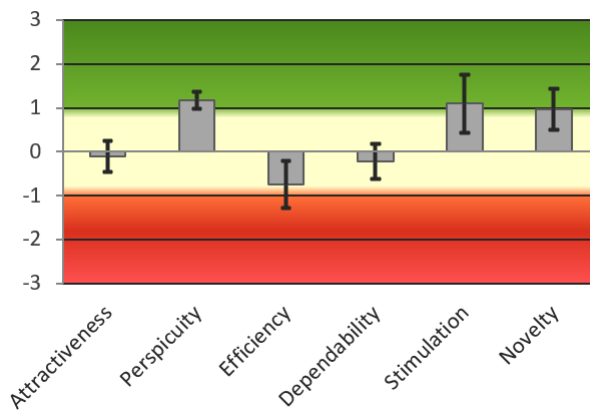| PD patients	Attractiveness	Perspicuity	Efficiency	Dependability	Stimulation	Novelty
PD01	0,17	1,00	-0,75	0,25	1,50	0,50
PD02	0,00	1,50	-0,25	-1,25	2,50	1,50
PD03	0,17	1,50	0,00	-0,25	1,50	1,25
PD04	0,50	1,00	-0,25	-0,25	2,00	2,25
PD05	-0,83	1,25	-1,75	-1,00	1,00	1,25
PD06	-1,33	1,50	-0,25	0,50	0,75	1,50
PD07	0,00	1,50	-1,25	-0,25	2,00	1,25
PD08	0,00	1,00	-1,25	0,00	0,50	0,00
PD09	0,50	0,75	0,50	-0,75	0,50	0,00
PD10	-0,17	0,75	-2,25	0,75	-1,25	0,25
MEAN	-0,10	1,18	-0,75	-0,23	1,10	0,98
SD	0,57	0,31	0,86	0,64	1,07	0,75

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PD VCARE USABILITY AND SATISFACTION

PD UEQ results post-intervention

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PD KPI RESULTS

Outcomes	Improvement indicator		Results
Primary outcome			
1.Improvement of the quality of life	EuroQoL5D	10% increase in the QoL score at the end of the PILOT compared with control group	✓ Mobility =53,84% ✓ Self-care=60% ✓ Daily activities=57,14% ✓ pain/discomfort=66,66% ✓ Anxiety/depression=50%

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PD KPI RESULTS

Secondary outcome			
Reduction of risk factors			
1.Daily number of steps	STAT-ON	10% increase	✓ 62,5% of PD patients presented a significant improvement in their fluidity which is the most significant parameter related to patient's gait and bradykinesia. X No significant increase of mean of walking minutes per day or number of steps done per day by PD patients.
2.Time devoted to the exercise (motor and cognitive rehabilitation)	REHABILITY	10% increase	✓ All patients showed an adherence of motor games higher than 90%, just one patient showed an adherence of 88%. ✓ Regarding cognitive games, 4 patients showed an adherence of 100%, 5 patients showed an adherence higher than 90%, and just one patient showed an adherence of 88%.
3.Number of accesses to e-learning	vCare app		✓ 3 patients showed an adherence of 100% ✓ 1 patient showed an adherence of 83,33 X 4 patients showed an adherence lower than 50% X 4 patients did not show adherence.

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PD KPI RESULTS

Adherence to the home care and rehabilitation plan				
1.Access to the vCare platform and/or interaction with the virtual coach	vCare app	At least once a week by a minimum of 80% of patients	✓	All patients showed an adherence of 100%
2.Total number of times the vCare interacts with the patient		70% by at least 80% of patients	✓	7 PD patients showed an adherence of 100%
			✓	2 patients showed an adherence higher than 85%
			X	Just 1 patient showed an adherence lower than 50%

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PD KPI RESULTS

Personalization and health promotion			
1.Adaptation of the pathways	vCare app	✓	The avatar was able to make adaptations to the PD pathway
		✓	100% of adherence
2.Adaptation of the daily number of steps		-No data available from the monitoring vCare app.	
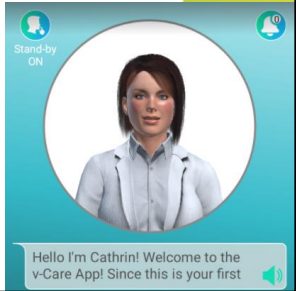
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PD PILOT TEST CONCLUSION

✓ **PD vCare group significantly increase**

✅ Quality of life

✅ Cognitive performance

✅ Motor symptoms measured by the STAT-ON

✅ Activities of daily life

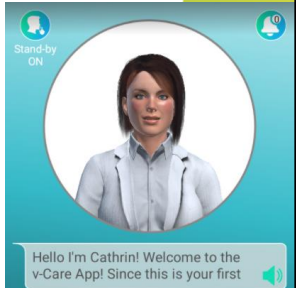49

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PD PILOT TEST CONCLUSION

✓ PD patients found:

✅ vCare system is very useful

✅ Their experience was positive.

✓ High adherence to
- vCare system
- Care plan
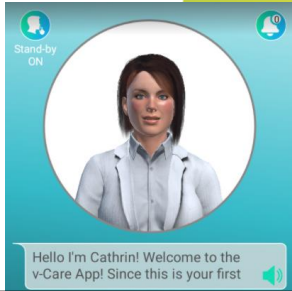- Rehabilitation
- Devices

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PD PILOT TEST CONCLUSION

✔ The vCare system performs daily life monitoring with sensors (presence and movement devices) installed in the patient's home

✔ vCare is able to adapt personalized rehabilitation to each patient

✔ Virtual coach promotes a healthy lifestyle

✔ Prevents risks, such as falls

✔ Detect patients at risk of falls

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THANK YOU!
MUCHAS GRACIAS!
ESKERRIK ASKO!

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