

Monitorización en casa

DISPOSITIVOS PORTÁTILES

MANEJO EFECTOS SECUNDARIOS Y COMPLICACIONES

M.E. Amanda Aurora Martínez Mar

Introducción

DISPOSITIVOS PORTÁTILES/NUEVA REALIDAD

Actualizaciones en la adopción de tecnologías de salud portátiles: relojes inteligentes, parches y ropa que pueden rastrear y registrar signos vitales de salud. Los datos proporcionados por los dispositivos portátiles proporcionan información adicional en tiempo real y en la comodidad desde la casa.

Para los pacientes con cáncer, el seguimiento de datos biométricos podría proporcionar información valiosa a los profesionales sanitarios durante las distintas fases del tratamiento.

Métricas de actividad basal (pasos y FC), para fines pronósticos y de selección del tratamiento.

Análisis longitudinal de las constantes vitales de salud puede ayudar a identificar patrones preocupantes relacionados con eventos adversos, así como a supervisar los regímenes de rehabilitación y ejercicio.

Clasificación



Pronóstico: datos biométricos para correlacionar o predecir un resultado clínico



Monitorización del tratamiento: datos biométricos se utilizaron para caracterizar cambios en los parámetros clínicos o detectar eventos adversos.



Rehabilitación: datos biométricos se utilizaron para correlacionarlos con la actividad física, la calidad de vida u otras medidas de bienestar.



Dispositivos

- ActiGraph: <https://ametriz.com/>
- Fitbit: https://store.google.com/es/category/watches_trackers?hl=es&pli=1
- Garmin: <https://www.garmin.com/es-MX/c/sports-fitness/activity-fitness-trackers/>
- ActivPAL : <https://www.palt.com/>



Pixel y Fitbit te ayudan a mantenerte en movimiento.



Physical Activity



Gait and Mobility



Sleep Behavior



Cardinal Symptoms



Vital Signs



Smartwatches



Pulseras de actividad Fitbit



Comparar smartwatches y pulseras de actividad



Table S2. Wearable Device Characteristics, by Study

Study	Type of Wearable	Brand of Wearable Device	Purpose of Wearable Device	Pattern of Use of Wearable Device	Timing of Use of Wearable Device	Duration of Wearable Device Use	Monitoring of Wearable Device Data	Adherence of Wearable Device Use	Intervention or Monitoring Intent	Clinical Outcome	Degree of Significance of Clinical Outcome
Primary Use: Prognostication											
An 2019 ¹⁰	Pedometer	Actiwatch 2	Daily Minutes of Physical Activity	Continuous	Post-Treatment	1 week	Retrospective Monitoring	84%	Intervention	Length of stay	>0.05 (inversely co
Barkley 2019 ¹⁷	Pedometer	Fitbit	Daily Step Count	Continuous	Pre-Treatment; On Treatment; Post-Treatment	25 days	Retrospective Monitoring	82%	Monitoring	Functional recovery	
Bille 2021 ²¹	Pedometer	3D TriSport	Daily Step Count	Continuous	Pre-Treatment	15 days	Retrospective Monitoring	87%	Monitoring	Hospital length of stay, cardiac and respiratory complications	Length of stay - >0.05 (inversely correlate
Cos 2021 ³⁵	Pedometer	Fitbit	Daily Step Count	Continuous	Pre-Treatment; On Treatment; Post-Treatment	2 weeks	Live Monitoring	100%	Monitoring	Treatment failure	
Dore 2022 ³⁸	Pedometer	ActiGraph	Daily Minutes of Physical Activity	Discrete Timepoints	Post-Treatment	7 days every 3 months for 1 year and at years 2 and 4	Retrospective Monitoring	Not reported	Monitoring	Depression, pain, fatigue	Depression - <0.05 correlated) Pain - <0.05 (inversely correlated) Fatigue - >0.05
Finley 2020 ⁴⁹	Pedometer, Heart Rate Monitor	Garmin	Daily Minutes of Physical Activity and Heart Rate	Continuous	Pre-Treatment; Post-Treatment	Varying by patient (pre and postoperative ly)	Retrospective Monitoring	75%	Intervention	Exercise	
Hamari 2019 ⁷¹	Pedometer	Fitbit	Daily Minutes of Physical Activity	Continuous	On Treatment	1 week	Retrospective Monitoring	77%	Intervention	Physical activity, motor performance, fatigue	
Hartman 2017 ⁷⁵	Pedometer	ActiGraph	Daily Minutes of Physical Activity	Continuous	Post-Treatment	7 days	Retrospective Monitoring	97%	Monitoring	Quality of life	0.03 (proportionally correlated)
Kong 2020 ⁹²	Pedometer	Fitbit	Daily Step Count and Daily Minutes of Physical Activity	Continuous	Pre-Treatment	7 days	Retrospective Monitoring	90%	Monitoring	Sarcopenia, physical fitness	
Mylius 2021 ¹¹⁷	Pedometer	ActiGraph	Daily Step Count	Continuous	Pre-Treatment	7 days	Retrospective Monitoring	Not reported	Monitoring	Functional recovery	<0.01 (proportional correlated)
Ohri 2019 ¹²³	Pedometer	Garmin	Daily Minutes of Physical Activity	Discrete Timepoints	Pre-Treatment; On Treatment	Varying (median of 17 days)	Retrospective Monitoring	Not reported	Monitoring	Survival	<0.01 (proportional correlated)
Pavic 2020 ¹²⁹	Pedometer	Biovotion AG	Daily Minutes of Physical Activity	Continuous	Post-Treatment	12 weeks	Retrospective Monitoring	53%	Monitoring	Readmission	<0.05 (proportional correlated)
Richards 2020 ¹⁴⁸	Pedometer	Garmin	Daily Step Count	Discrete Timepoints	Pre-Treatment	90 days	Retrospective Monitoring	Not reported	Monitoring	Length of stay, post-operative complications, discharge to care facilities, requiring support on discharge	Length of stay - <0.05 (inversely correlate) Major post-operative complication - 0.04 correlated) Discharge to care facilities - <0.01 (inversely co Requiring support on discharge - 0.03 (inversely co

Study	Type of Wearable	Brand of Wearable Device	Purpose of Wearable Device	Pattern of Use of Wearable Device	Timing of Use of Wearable Device	Duration of Wearable Device Use	Monitoring of Wearable Device Data	Adherence of Wearable Device Use	Intervention or Monitoring Intent	Clinical Outcome	Degree of Significance of Clinical Outcome
Saito 2020 ¹⁶²	Pedometer	Lifecorder Ex 4-s version	Daily Step Count and Minutes of Physical Activity	Continuous	On Treatment	9 days	Retrospective Monitoring	Not reported	Monitoring	Bone health	Bone formation – 0 (inversely correlated) Bone absorption – 0 (inversely correlated)
Shih 2021 ¹⁶⁸	Heart Rate Monitor	ViPCare	Heart Rate	Continuous	On Treatment	7 days	Retrospective Monitoring	Not reported	Monitoring	Cancer-related fatigue	
Slade 2021 ¹⁷²	Pedometer; Heart Rate Monitor	Garmin	Daily Step Count and Heart Rate	Continuous	On Treatment; Post-Treatment	30 days	Retrospective Monitoring	Not reported	Monitoring	Adverse events	0.05 (inversely correlated)
Timmerman 2018 ¹⁷⁸	Pedometer	Inertia Technology	Daily Minutes of Physical Activity	Continuous	Pre-Treatment; Post-Treatment	Minimum of 3 days at 1 and 6 months	Retrospective Monitoring	Not reported	Monitoring	Physical activity	0.03 (proportionally correlated)
Yonenaga 2021 ²⁰⁷	Pedometer	Suzuken Co., Ltd	Daily Step Count	Continuous	On Treatment	7 days	Retrospective Monitoring	Not reported	Monitoring	Disability-free survival, hospital length of stay, inpatient care cost	Disability-free survival (inversely correlated) Hospital length of stay Inpatient care cost -
Zahiri 2019 ²³⁸	Pedometer	Biosensics	Gait/Balance	Discrete Timepoints	On Treatment; Post-Treatment		Retrospective Monitoring	Not reported	Monitoring	Motor deterioration	<0.001
Primary Use: Treatment Monitoring											
Backman 2014 ¹²	Pedometer	SILVA Ex Connect	Daily Minutes of Physical Activity	Continuous	On Treatment	10 weeks	Retrospective Monitoring	91%	Intervention	Symptoms	<0.05 (inversely correlated)
Bade 2018 ¹⁴	Pedometer	Fitbit	Daily Step Count	Continuous	On Treatment; Post-Treatment	7 days	Retrospective Monitoring	86%	Intervention	Physical activity participation	
Bade 2021 ¹⁵	Pedometer	Fitbit	Daily Minutes of Physical Activity	Continuous	On Treatment	12 weeks	Retrospective Monitoring	90%	Intervention	Quality of life	
Braam 2016 ²³	Pedometer	Actical Activity Monitor B Series	Daily Minutes of Physical Activity	Continuous	On Treatment; Post-Treatment	4 days	Retrospective Monitoring	88%	Monitoring	Physical activity, sedentary behavior, cardiorespiratory fitness	
Broderick 2019 ²⁶	Pedometer	Microsoft	Daily Step Count	Continuous	On Treatment; Post-Treatment	60 days	Retrospective Monitoring	86%	Monitoring	Performance status	
Cadmus-Bertram 2019 ³⁸	Pedometer	ActiGraph	Daily Minutes of Physical Activity	Continuous	Post-Treatment	12 weeks	Retrospective Monitoring	Not reported	Intervention	Physical activity	<0.05 (proportionally correlated)
Champ 2018 ³¹	Pedometer	Misfit	Daily Step Count	Continuous	Pre-Treatment; On Treatment; Post-Treatment	50 days	Retrospective Monitoring	Not reported	Monitoring	Physical activity, sleep, fatigue, body mass index	>0.05
Chestnut 2020 ³³	Pedometer; Continuous Glucose Monitor	Garmin	Daily Step Count	Continuous	Pre-Treatment; On Treatment; Post-Treatment	12 months	Retrospective Monitoring	Not reported	Intervention	Glycemic control	
Dorion 2017 ³⁹	Pedometer	Misfit	Daily Step Count	Continuous	Pre-Treatment; On Treatment; Post-Treatment	1 month	Retrospective Monitoring	92%	Monitoring	Quality of life, pain, performance status	Quality of life - >0.05 Pain - >0.05 Performance status – 0.04 (proportionally correlated)
Erickson 2021 ⁴⁴	Pedometer	ActiGraph	Daily Minutes of Physical Activity	Continuous	On Treatment		Live Monitoring	84%	Intervention	Fatigue, self-efficacy	
Fouladim 2007 ⁵¹	Pedometer	ActiGraph	Daily Step Count	Continuous	On Treatment; Post-Treatment	3 days every 4 months for	Retrospective Monitoring	56%	Monitoring	Weight loss, physical functioning, pain	<0.05 (inversely correlated)

Gracias

Identification
n=1000

Screening
n=1000

Eligibility
n=1000

Included
n=1000

Excluded
n=1000

Excluded
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Screening
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The Use of Wearable Devices in Oncology Patients: A Systematic Review

This article summarizes the current literature on wearable technologies in oncology patients for the...

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