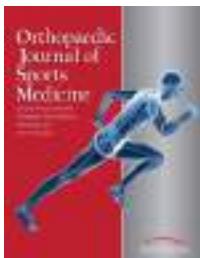


Risque psychologique-psychiatrique

- Surentrainement – Burn out
- Addiction
- Dopage





Youth sport: positive and negative impact on young athletes

Donna L Merkel

Open Access Journal of Sports Medicine
15 June 2013



Table 3 Impact of youth sports

Positive	Negative
<ul style="list-style-type: none">• Physical<ul style="list-style-type: none">◦ Increased physical activity◦ Enhanced fitness◦ Lifelong physical, emotional, and health benefits◦ Decreased risk of obesity◦ Minimizes development of chronic disease◦ Improves health◦ Improves motor skills• Psychological<ul style="list-style-type: none">◦ Decrease depression◦ Decrease suicidal thoughts◦ Decrease high risk health behaviors◦ Increases positive behavior in teens◦ Develops fundamental motor skills◦ Improves self-concept/self-worth• Social<ul style="list-style-type: none">◦ Enhances social skills◦ Provides life lessons◦ Improves positive social behaviors◦ Enhances time management skills◦ Improves academic achievement◦ Helps to develop passion and goal setting◦ Improves character	<ul style="list-style-type: none">• Physical<ul style="list-style-type: none">◦ Injuries◦ Untrained coaches◦ Inconsistent safety precautions◦ Lack of sports science influencing policy and practices• Psychological<ul style="list-style-type: none">◦ Increase stress to be an elite player◦ High rates of attrition◦ Too competitive◦ Inappropriate expectations to achieving scholarships/professional career• Social<ul style="list-style-type: none">◦ Inconsistent funding to insure proper safety equipment, venues, and equal participation◦ Expense◦ Inequality across groups (socioeconomic, ethnic, geographic, gender)

Evaluation de l'activité physique

Auto-évaluation de l'activité physique :

- Compléter le questionnaire au lien suivant : <https://e-paq.fr> (10')
- Puis mise en commun



Auto-évaluation de l'activité physique :

- Répondez individuellement à la question suivante :

La semaine dernière, combien de jours avez-vous fait au moins 30 minutes d'activité physique qui vous font respirer un peu plus fort que d'habitude? Vous pouvez inclure dans ces activités le sport, l'exercice physique, la marche rapide ou les trajets à vélo effectués pour vos loisirs ou vos déplacements, mais pas vos travaux ménagers ni les activités physiques qui font partie de votre travail.

Jours par semaine: _____

- Puis comparer ce résultat avec celui du questionnaire précédent

BJSM Online First, published on June 14, 2013 at 10.1136/bjsports-2012-092122
Original article

What physical activity surveillance needs: validity of a single-item questionnaire

Miriam Wanner,¹ Nicole Probst-Hensch,^{2,3} Susi Kriemler,^{1,2,3} Flurina Meier,² Adrian Baumer,¹ Brian W Martin⁴

Abstract Self-report instruments to assess physical activity are the most feasible option in many studies. However, they are often considered less valid owing to response constraints. The aim of this study was to test the criterion validity of a single-item physical activity questionnaire (PAQ) and to compare it to measurement properties by gender, age group and validation methods. A validation study was carried out within the second follow-up of a large Swiss cohort study (Swiss Study of Early Life and Disease). Participants were recruited from the Swiss National Cohort Study of Early Life and Disease in Adults (SAPLICA, n=208) and included an accelerometry over eight consecutive days and then completed a PAQ. Correlations between PAQ and accelerometry were higher for women than for men. Correlations between PAQ and accelerometry for the number of days with at least 30 min of moderate-to-vigorous physical activity according to the single item were higher than correlations for the number of days with at least 30 min of light intensity activity from 0.40 to 0.54. Correlations were higher for women, older participants and those with higher education. Correlations between PAQ and accelerometry were lower for the number of days with at least 30 min of sedentary behaviour. Correlations between PAQ and accelerometry were higher for women than for men, younger adults, and lower intensity activities are more difficult to recall. Furthermore, older people and those with higher education tended to recall more days. PAQ was more sensitive to changes in working conditions than accelerometry. In conclusion, PAQ can be used in large populations to estimate physical activity levels in older adults.

In contrast, self-reporting physical activity is even more difficult.¹ As physical inactivity is a leading risk factor for many non-communicable diseases, physical activity surveillance is an important tool in many associations of interest in epidemiological studies. Population-level assessment of activity behaviour is often conducted by a wide range of studies that cover a variety of disciplines including public health, sports science, ergonomics, etc. However, space is often limited and brief, simple and valid measures of physical activity are needed.

In general, self-report instruments to assess self-reported physical activity are even more difficult.² As physical inactivity is a leading risk factor for many non-communicable diseases, physical activity surveillance is an important tool in many associations of interest in epidemiological studies. Population-level assessment of activity behaviour is often conducted by a wide range of studies that cover a variety of disciplines including public health, sports science, ergonomics, etc. However, space is often limited and brief, simple and valid measures of physical activity are needed.

Introduction Measuring physical activity is a prerequisite for understanding physical activity behaviour and behaviour change. Self-report instruments for assessing and evaluating purposes assessing physical activity needs to be feasible and inexpensive. Even though physical activity has become increasingly common and more widespread during the last years, self-report instruments remain problematic, especially in large samples. Therefore, self-report measures are still preferred to objective measures in large samples.

Physical activity questionnaires vary greatly in length, complexity and validity. Short single-item questions have been developed to estimate physical activity behaviour. These questions are usually based on English and covers the past week. It asks about the number of days spent with at least 30 min of physical activity per week. The reliability and validity of the single-item PAQ have been assessed in different countries.

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What physical activity surveillance needs: validity of a single-item questionnaire

Miriam Wanner,¹ Nicole Probst-Hensch,^{2,3} Susi Kriemler,^{1,2,3} Flurina Meier,^{2,3} Adrian Bauman,⁴ Brian W Martin¹

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ones,⁵ perhaps because individuals are prompted to think about activities in more detail.

As physical inactivity is a leading risk factor for mortality⁶⁻⁸ and acts as a mediator or moderator in many associations of interest in epidemiological studies, population-level assessment of activity levels needs to be integrated into wider surveys. This covers a variety of disciplines including health, nutrition, transport and sport. However, space is often limited and brief, simple and valid measures of 'physical activity' are needed.

In older individuals, the assessment of self-reported physical activity is even more difficult.⁷ Older adults spend more time performing low-intensity activities and less time performing moderate and high-intensity activities compared to younger adults,⁸ and lower intensity activities are more difficult to recall.⁹ Furthermore, elderly people's daily routines are more structured, their days are less structured compared to the working population and therefore recall is made more difficult. Longer questionnaires can be problematic owing to high cognitive demands and limited com-

Table 2 Physical activity behaviour according to single-item measure and accelerometers, stratified by gender, age group and language region

	Gender				Age groups				Language regions			
	All	Men	Women	p Value*	18–39 years	40–64 years	≥65 years	p Value†	German	French	Italian	p Value†
n	318	146	172		54	156	108		131	99	88	
Single-item measure												
Days/week, mean (SD)	2.9 (2.3)	3.0 (2.3)	2.7 (2.2)	0.21	3.7 (2.0)	2.4 (2.2)	3.1 (2.3)	<0.001	3.4 (2.2)	2.4 (2.1)	2.6 (2.3)	0.002
sufficiently active‡ (%)	27.4	30.8	24.4	0.20	40.7	21.8	28.7	0.025	35.9	18.2	25.0	0.01
Accelerometers												
Hours/day of wear time, mean (SD)	14.9 (1.2)	15.0 (1.4)	14.9 (1.1)	0.16	15.3 (0.9)	15.1 (1.3)	14.4 (1.2)	<0.001	15.1 (1.3)	14.7 (1.1)	15.0 (1.3)	0.26
Counts/min, mean (SD)	342 (144)	349 (148)	336 (140)	0.47	403 (139)	342 (146)	310 (133)	<0.001	362 (150)	324 (139)	332 (138)	0.09
Steps/day, mean (SD)	8764 (3453)	8733 (3328)	8790 (3566)	0.92	9811 (3122)	9080 (3512)	7783 (3311)	<0.001	9231 (3453)	8086 (3240)	8831 (3600)	0.052
Minutes/day of MVPA, mean (SD)	37.5 (26.8)	40.2 (27.2)	35.2 (26.3)	0.07	53.6 (25.6)	35.9 (26.7)	31.8 (24.5)	<0.001	42.7 (27.5)	33.4 (26.7)	34.3 (24.9)	0.009
Minutes/day of vigorous activity, mean (SD)	2.2 (5.5)	2.6 (5.6)	1.9 (5.5)	0.02	6.5 (8.4)	1.8 (5.1)	0.8 (2.6)	<0.001	3.0 (5.3)	1.5 (5.2)	1.9 (6.1)	<0.001
Minutes/day of moderate activity, mean (SD)	35.3 (24.5)	37.6 (25.4)	33.3 (23.7)	0.12	47.1 (22.2)	34.1 (24.7)	31.0 (23.8)	<0.001	39.7 (25.6)	31.9 (24.4)	32.4 (22.1)	0.02
Minutes/day of MVPA in bouts, mean (SD)	17.1 (19.6)	17.3 (21.1)	16.8 (18.3)	0.96	21.7 (16.9)	16.1 (20.6)	16.1 (19.2)	0.006	19.8 (20.1)	15.8 (20.0)	14.4 (17.9)	0.02
Sufficiently active‡ (total MVPA, %)	33.0	31.5	34.3	0.60	61.1	30.8	22.2	<0.001	42.8	18.2	35.2	<0.001
Sufficiently active‡ (bouts in MVPA, %)	6.6	5.5	7.6	0.46	9.3	5.1	7.4	0.53	6.9	6.1	6.8	0.97

*Based on Wilcoxon rank-sum test (continuous variables) or χ^2 test (categorical variables).

†Based on Kruskal-Wallis equality-of-populations rank test (continuous variables) or χ^2 test (categorical variables).

‡Sufficiently active: at least 30 min/day on at least 5 days/week.

MVPA, moderate-to-vigorous physical activity.

Auto-évaluation de l'activité physique :

- Regardez votre smartphone et/ou montre connectée

Prescription de l'activité physique

Quand, comment et par qui ?

Loi de santé sur la prescription d'AP

- Loi de Santé Janvier 2016 puis décret en Déc 2016 :
 - Le médecin traitant peut prescrire une APA à la pathologie, aux capacités physiques du patient et au risque médical
 - Ordonnance = acte facturé mais quid de la réalisation (pas d'acte APA)
- Elargissement des prescripteurs autorisés

Prescription de l'activité physique

- Doit préciser nombre de séances hebdomadaires, durée et intensité
- Grandes lignes du contenu : cardiorespiratoire, muscles, équilibre, souplesse
- Sports / Activités à privilégier ou à contre-indiquer
- Les limitations fonctionnelles à respecter ou à prendre en compte (ex : pathologie appareil locomoteur)

Modalités de mise en oeuvre

- Plusieurs possibilités selon le niveau de déconditionnement, le type de pathologie (ex : BPCO sous O²) et les habitudes ou passé sportif
- Pratique libre ou dans un club ou association certifié niveau 1
- Pratique accompagnée dans une structure certifié niveau 2 (prise en charge de toute pathologie chronique ou focus sur une seule : exemple Programme RIPOST de la FF Escrime et Cancer du sein)
- Programme hospitalier initial (ex : Hôtel Dieu et Jean Verdier) avant programme passerelle

Efficacité de ces programmes hospitaliers Niveau d'AP et test de Ricci Gagnon

N = 103 patients	HDJ initiale	HDJ 2 mois	HDJ 6 mois	HDJ 12 mois
Score RG (mediane)	14.0 (11.5 – 23.0)	26.0 (18.5 – 30.0)**	25.0 (15.0 – 30.3)**	24.5 (15.0 – 30.0)**
Inactif/Actif/Très actif (%)	62/38/0	25/75/0*	42/58/0*	34/76/0**

* p < 0.01; ** p < 0.001

Efficacité de ces programmes hospitaliers

Capacité d'endurance chez des patients atteints d'un syndrome d'asthénie post-COVID

N = 45	HDJ 1	HDJ 2	p
PMA * (watt)	110 [86-132]	122 [110 – 150]	< 0,0001
VO2 pic * (ml/min/kg)	22 [18,2-26]	24,2 [21-30]	< 0,0001
TM6M * (m)	540 [500-600]	583 [535-640]	< 0,0001

* Médiane [IQT]

Efficacité de ces programmes hospitaliers Qualité de vie chez des patients atteints d'un syndrome d'asthénie post-COVID

	HDJ 1	HDJ 2	<i>p</i>
PMA * (watt)	110 [86-132]	122 [110 – 150]	< 0,0001
VO2 pic * (ml/min/kg)	22 [18,2-26]	24,2 [21-30]	< 0,0001
TM6M * (m)	540 [500-600]	583 [535-640]	< 0,0001

* *Mediane [IQT]*

Efficacité de ces programmes hospitaliers

Comparaison avec d'autres populations

	All	Cancer	BPCO	Post-COVID
Nombre de patients	90	17	54	45
VO₂ (mL/min/kg)	↑ 1.1 ***	-	↑ 1.7 ***	↑ 2,2 ***
PMA (w)	↑ 3.7 *	↑ 11.6 ***	-	↑ 12 ***
T6M (m)	↑ 34.2 ***	-	↑ 42.3 ***	↑ 43 ***
QdV Physique (/100)	↑ 7.7 ***	-	↑ 8.6 ***	↑ 6 **
QdV Mentale (/100)	↑ 7.0 ***	-	↑ 8.2 ***	↑ 15 ***
Score de RG (/45)	↑ 4.5 ***	↑ 5.8 **	↑ 3.7 **	↑ 11 ***

p < 0.05; ** p < 0.01; *** p < 0.001

Prévention par l'activité physique

A tous les niveaux de la prévention primaire, secondaire et tertiaire
Quelques exemples en cancérologie

The association between frequency of vigorous physical activity and hepatobiliary cancers in the NIH-AARP Diet and Health Study

Gundula Behrens · Charles E. Matthews · Steven C. Moore · Neal D. Freedman ·
Katherine A. McGlynn · James E. Everhart · Albert R. Hollenbeck ·
Michael F. Leitzmann

- 507.897 participants à la NIH-AARP Diet and Health study
 - Âges : 50 à 71 ans en 1995/1996
 - Suivis pendant 10 ans
 - 628 cancers du foie
 - 317 cancers des voies biliaires extra-hépatiques

Table 2 Relative risk of total liver cancer (including intrahepatic bile duct cancer) and sub-types of liver cancer in relation to frequency of vigorous physical activity, NIH-AARP Diet and Health Study, 1995–2006

Frequency of vigorous physical activity ^a , times per week	Cases	Person-years	Age- and sex-standardized ^b incidence rate per 100,000 person-years (95 % confidence interval)	Relative risk (95 % confidence interval)	
				Age- and sex-adjusted ^c	Multivariate-adjusted ^d
Total liver cancer					
0	155	818,247	21.0 (17.7–24.4)	1.00 (ref.)	1.00 (ref.)
<1	90	632,732	15.5 (12.3–18.7)	0.73 (0.56–0.95)	0.87 (0.67–1.13)
1–2	144	1,003,396	14.8 (12.4–17.2)	0.70 (0.56–0.88)	0.91 (0.72–1.15)
3–4	147	1,246,016	11.3 (9.5–13.2)	0.54 (0.43–0.68)	0.77 (0.61–0.97)
5+	92	903,624	9.3 (7.4–11.2)	0.45 (0.35–0.58)	0.64 (0.49–0.84)
<i>p-trend</i>				<0.001	<0.001
Hepatocellular carcinoma					
0	110	818,247	15.1 (12.3–18.0)	1.00 (ref.)	1.00 (ref.)
<1	59	632,732	10.2 (7.6–12.8)	0.67 (0.49–0.91)	0.81 (0.59–1.11)
1–2	98	1,003,396	10.1 (8.1–12.1)	0.66 (0.50–0.86)	0.87 (0.66–1.15)
3–4	90	1,246,016	6.9 (5.4–8.3)	0.45 (0.34–0.60)	0.65 (0.49–0.87)
5+	58	903,624	5.9 (4.3–7.4)	0.38 (0.28–0.53)	0.56 (0.41–0.78)
<i>p-trend</i>				<0.001	<0.001
Cholangiocarcinoma					
0	13	818,247	1.8 (0.8–2.8)	1.00 (ref.)	1.00 (ref.)
<1	12	632,732	2.1 (0.9–3.3)	1.19 (0.54–2.62)	1.24 (0.56–2.74)
1–2	18	1,003,396	1.8 (1.0–2.7)	1.09 (0.53–2.23)	1.18 (0.57–2.43)
3–4	28	1,246,016	2.2 (1.4–3.0)	1.31 (0.68–2.54)	1.47 (0.74–2.90)
5+	19	903,624	1.9 (1.0–2.8)	1.20 (0.59–2.44)	1.34 (0.64–2.79)
<i>p-trend</i>				0.57	0.39
Other liver cancer					
0	32	818,247	4.1 (2.7–5.6)	1.00 (ref.)	1.00 (ref.)
<1	19	632,732	3.2 (1.7–4.6)	0.77 (0.44–1.36)	0.94 (0.53–1.67)
1–2	28	1,003,396	2.9 (1.8–3.9)	0.69 (0.41–1.15)	0.95 (0.57–1.60)
3–4	29	1,246,016	2.3 (1.4–3.1)	0.55 (0.33–0.91)	0.87 (0.52–1.48)
5+	15	903,624	1.6 (0.8–2.4)	0.38 (0.20–0.70)	0.61 (0.32–1.15)
<i>p-trend</i>				0.001	0.13

Table 2 Relative risk of total liver cancer (including intrahepatic bile duct cancer) and sub-types of liver cancer in relation to frequency of vigorous physical activity, NIH-AARP Diet and Health Study, 1995–2006

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0	110	818,247	15.1 (12.3–18.0)	1.00 (ref.)	1.00 (ref.)
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<1	12	632,732	2.1 (0.9–3.3)	1.19 (0.54–2.62)	1.24 (0.56–2.74)
1–2	18	1,003,396	1.8 (1.0–2.7)	1.09 (0.53–2.23)	1.18 (0.57–2.43)
3–4	28	1,246,016	2.2 (1.4–3.0)	1.31 (0.68–2.54)	1.47 (0.74–2.90)
5+	19	903,624	1.9 (1.0–2.8)	1.20 (0.59–2.44)	1.34 (0.64–2.79)
<i>p-trend</i>				0.57	0.39
Other liver cancer					
0	32	818,247	4.1 (2.7–5.6)	1.00 (ref.)	1.00 (ref.)
<1	19	632,732	3.2 (1.7–4.6)	0.77 (0.44–1.36)	0.94 (0.53–1.67)
1–2	28	1,003,396	2.9 (1.8–3.9)	0.69 (0.41–1.15)	0.95 (0.57–1.60)
3–4	29	1,246,016	2.3 (1.4–3.1)	0.55 (0.33–0.91)	0.87 (0.52–1.48)
5+	15	903,624	1.6 (0.8–2.4)	0.38 (0.20–0.70)	0.61 (0.32–1.15)
<i>p-trend</i>				0.001	0.13

Regular recreational physical activity and risk of hematologic malignancies: results from the prospective ViTamins And lifestyle (VITAL) study[†]

R. B. Walter^{1,2,3*}, S. A. Buckley⁴ & E. White^{3,5}

Annals of Oncology, 2013

- 65322 participants
 - Âges : 50 à 76 ans
- Suivis pendant 10 ans

Table 3. Associations between average 10-year recreational physical activity levels and risk of hematologic malignancies

Average over 10 years before baseline	Cases (N = 666) n (%)	Noncases (N = 64 656) n (%)	Age- and sex-adjusted HR (95% CI), P-value	Multivariable-adjusted HR (95% CI) ^a , P-value
Recreational physical activity				
None	123 (18.5)	9552 (14.8)	1.00 (Reference)	1.00 (Reference)
Any	543 (81.5)	55 104 (85.2)	0.74 (0.61–0.90), 0.002	0.75 (0.61–0.94), 0.011
Moderate/high-intensity ^b	298 (70.8)	31 653 (76.8)	0.73 (0.59–0.90), 0.004	0.72 (0.57–0.92), 0.008
Episodes of all activities per week				
First tertile (0.2–1.8)	168 (25.2)	18 409 (28.5)	0.74 (0.59–0.93), 0.012	0.78 (0.61–1.01), 0.056
Second tertile (1.85–4.8)	205 (30.8)	18 721 (29.0)	0.82 (0.65–1.02), 0.075	0.80 (0.62–1.02), 0.076
Third tertile (>4.8)	170 (25.5)	18 974 (27.8)	0.66 (0.52–0.83), <0.001	0.66 (0.51–0.86), 0.002
P-trend			0.004	0.005
Episodes of moderate/high-intensity activities per week ^b				
First tertile (0.15–1.1)	98 (23.3)	10 395 (25.2)	0.78 (0.60–1.02), 0.065	0.76 (0.57–1.02), 0.068
Second tertile (1.125–3.4)	112 (26.6)	10 519 (25.5)	0.82 (0.64–1.07), 0.140	0.78 (0.58–1.04), 0.089
Third tertile (>3.5)	88 (20.9)	10 740 (26.1)	0.60 (0.46–0.79), <0.001	0.60 (0.44–0.82), 0.001
P-trend			0.001	0.002
MET-hours of all activities per week				
First tertile (0.175–4.3745)	163 (24.5)	18 298 (28.3)	0.72 (0.57–0.91), 0.006	0.77 (0.59–0.98), 0.038
Second tertile (4.375–13.624)	197 (29.6)	18 437 (28.5)	0.80 (0.64–1.00), 0.047	0.78 (0.61–1.00), 0.053
Third tertile (>13.625)	183 (27.5)	18 369 (28.4)	0.70 (0.56–0.88), 0.002	0.71 (0.54–0.92), 0.010
P-trend			0.023	0.029
MET-hours of moderate/high-intensity activities per week ^b				
First tertile (0.197–3.5)	106 (25.2)	10 546 (25.6)	0.82 (0.63–1.06), 0.135	0.80 (0.60–1.06), 0.118
Second tertile (3.504–11.29167)	96 (22.8)	10 553 (25.6)	0.70 (0.54–0.92), 0.009	0.69 (0.51–0.93), 0.015
Third tertile (>11.2972)	96 (22.8)	10 554 (25.6)	0.68 (0.52–0.89), 0.005	0.65 (0.48–0.89), 0.007
P-trend			0.003	0.005

→ L'activité physique prévient la survenue de pathologies hématologiques malignes
 → De façon encore plus efficace chez les sujets qui pratiquent :

- ✓ Souvent
- ✓ Intensément

Promotion de l'activité physique

Recommendations



World Health Organization 2020 guidelines on physical activity and sedentary behaviour

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ABSTRACT

Objectives To describe new WHO 2020 guidelines on physical activity and sedentary behaviour.

Methods The guidelines were developed in accordance with WHO protocols. An expert Guideline Development Group reviewed evidence to assess associations between physical activity and sedentary behaviour for an agreed set of health outcomes and population groups. The assessment used and systematically updated recent relevant systematic reviews; new primary reviews addressed additional health outcomes or subpopulations.

Results The new guidelines address children, adolescents, adults, older adults and include new specific recommendations for pregnant and postpartum women and people living with chronic conditions or disability. All adults should undertake 150–300 min of moderate-intensity, or 75–150 min of vigorous-intensity physical activity, or some equivalent combination of moderate-intensity and vigorous-intensity aerobic physical activity, per week. Among children and adolescents, an average of 60 min/day of moderate-to-vigorous intensity aerobic physical activity across the week provides health benefits. The guidelines recommend regular muscle-strengthening activity for all age groups. Additionally, reducing sedentary behaviours is recommended across all age groups and abilities, although evidence was insufficient to quantify a sedentary behaviour threshold.

Conclusion These 2020 WHO guidelines update previous WHO recommendations released in 2010. They reaffirm messages that some physical activity is better than none, that more physical activity is better for optimal health outcomes and provide a new recommendation on reducing sedentary behaviours. These guidelines highlight the importance of regularly undertaking both aerobic and muscle strengthening activities and for the first time, there are specific recommendations for specific populations including for pregnant and postpartum women and people living with chronic conditions or disability. These guidelines should be used to inform national health policies aligned with the WHO Global Action Plan on Physical Activity 2018–2030 and to strengthen surveillance systems that track progress towards national and global targets.

INTRODUCTION

In 2018, the World Health Assembly (WHA) approved a new *Global Action Plan on Physical Activity (GAPPA) 2018–2030*¹ and adopted a new voluntary global target to reduce global levels of physical inactivity in adults and adolescents by 15% by 2030. As part of the WHA Resolution (WHA71.6), Member States requested that WHO update the 2010 *Global Recommendations on Physical Activity for Health*.²

Global and national guidelines on physical activity are a central component of a comprehensive and coherent governance and policy framework for public health action. WHO recommends all countries establish national guidelines and set physical activity targets. To help support populations to achieve the targets and maintain healthy levels of physical activity, all countries are advised to develop and implement appropriate national and subnational policies and programmes to enable people of all ages and abilities to be physically active and improve health.

Given that the most recent global estimates show that one in four (27.5%) adults³ and more than three-quarters (81%) of adolescents⁴ do not meet the recommendations for aerobic exercise, as outlined in the 2010 *Global Recommendations on Physical Activity for Health*,² there is an urgent need to increase priority and investment directed towards services to promote physical activity both within health and other key sectors. These data also reveal no overall improvement in global levels of participation over the last two decades and substantial gender differences.^{3,4} Furthermore, national data consistently show inequalities in participation by age, gender, disability, pregnancy, socioeconomic status and geography,¹ amplifying the need to intensify investment in physical activity.

This paper reports on the development of new WHO guidelines on physical activity and sedentary behaviour.⁵ These guidelines provide evidence-based public health recommendations concerning the amount (frequency, intensity, duration) and types of physical activity that offer significant health

Guidelines

Br J Sports Med: first published as 10.1136/bjsports-2020-102955 on 25 November 2020. Downloaded from <http://bjsm.bmjjournals.com/> on November 25, 2020 by guest. Protected by copyright.

Guidelines

Table 4 Summary of the WHO Guidelines on physical activity and sedentary behaviour.

These public health guidelines are for all populations across the age groups from 5 years of age and above, irrespective of gender, cultural background or socioeconomic status and are relevant for people of all abilities. Those with chronic medical conditions and/or disability and pregnant and postpartum women should try to meet these recommendations where possible and as able.

	Physical activity	Sedentary behaviour
Children and adolescents (aged 5–17 years), including those living with disability	<p>In children and adolescents, physical activity confers benefits for the following health outcomes: physical fitness (cardiorespiratory and muscular fitness), cardiometabolic health (blood pressure, dyslipidaemia, glucose and insulin resistance), bone health, cognitive outcomes (academic performance, executive function) and mental health (reduced symptoms of depression) and reduced adiposity.</p> <p>It is recommended that:</p> <ul style="list-style-type: none"> ▶ Children and adolescents should do at least an average of 60 min/day of moderate-to-vigorous intensity, mostly aerobic, physical activity, across the week; ▶ Vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone should be incorporated at least 3 days a week. <p>Strong recommendation</p>	<p>In children and adolescents, higher amounts of sedentary behaviour are associated with detrimental effects on the following health outcomes: fitness and cardiometabolic health, adiposity, behavioural conduct/pro-social behaviour and sleep duration.</p> <p>It is recommended that:</p> <ul style="list-style-type: none"> ▶ Children and adolescents should limit the amount of time spent being sedentary, particularly the amount of recreational screen time. <p>Strong recommendation</p>
Adults (aged 18–64 years) including those with chronic conditions and those living with disability	<p>In adults, physical activity confers benefits for the following health outcomes: all-cause mortality, cardiovascular disease mortality, incident hypertension, incident type 2 diabetes, incident site-specific cancers, mental health (reduced symptoms of anxiety and depression), cognitive health and sleep; measures of adiposity may also improve.</p> <p>It is recommended that:</p> <ul style="list-style-type: none"> ▶ All adults should undertake regular physical activity; ▶ Adults do at least 150–300 min of moderate-intensity aerobic physical activity, or at least 75–150 min of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate-intensity and vigorous-intensity activity throughout the week for substantial health benefits; ▶ Adults also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits. <p>Strong recommendation</p> <ul style="list-style-type: none"> ▶ Adults may increase moderate-intensity aerobic physical activity to >300 min, or do >150 min of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate-intensity and vigorous-intensity activity throughout the week for additional health benefits (when not contraindicated for those with chronic conditions). <p>Conditional recommendation</p>	<p>In adults, higher amounts of sedentary behaviour are associated with detrimental effects on the following health outcomes: all-cause mortality, cardiovascular disease mortality and cancer mortality and incidence of cardiovascular disease, type 2 diabetes and cancer.</p> <p>It is recommended that:</p> <ul style="list-style-type: none"> ▶ Children and adolescents should do at least an average of 60 min/day of moderate-to-vigorous intensity, mostly aerobic, physical activity, across the week; ▶ Vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone should be incorporated at least 3 days a week. <p>Strong recommendation</p>
Older adults (aged 65 years and older) including those with chronic conditions and those living with disability	<p>In older adults, physical activity also helps prevent falls and falls-related injuries and declines in bone health and functional ability.</p> <p>It is recommended that:</p> <ul style="list-style-type: none"> ▶ As for adults, plus ▶ As part of their weekly physical activity, older adults should do varied multicomponent physical activity that emphasises functional balance and strength training at moderate or greater intensity on 3 or more days a week, to enhance functional capacity and to prevent falls. <p>Strong recommendation</p>	<p>As for adults</p> <p>Strong recommendation</p>
Pregnant and postpartum women	<p>In women, physical activity during pregnancy and the postpartum period confers benefits for the following maternal and fetal health outcomes: reduced risk of pre-eclampsia, gestational hypertension, gestational diabetes, excessive gestational weight gain, delivery complications and postpartum depression and no increase in risk of stillbirth, newborn complications or adverse effects on birth weight.</p> <p>It is recommended that all pregnant and postpartum women without contraindication should:</p> <ul style="list-style-type: none"> ▶ undertake regular physical activity throughout pregnancy and post partum; ▶ do at least 150 min of moderate-intensity aerobic physical activity throughout the week for substantial health benefits; ▶ incorporate a variety of aerobic and muscle-strengthening activities. Adding gentle stretching may also be beneficial. <p>In addition:</p> <ul style="list-style-type: none"> ▶ Women who, before pregnancy, habitually engaged in vigorous-intensity aerobic activity or who were physically active can continue these activities during pregnancy and the postpartum period. <p>Strong recommendation</p>	<p>Pregnant and postpartum women should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.</p> <p>Strong recommendation</p>

Continued



Recommandations : 5 à 17 ans

- au moins 60 minutes par jour d'activité d'intensité modérée à soutenue
- plus de 60 minutes apportent un bénéfice supplémentaire pour la santé
- l'activité quotidienne devrait être essentiellement une activité d'endurance
- des activités d'intensité soutenue, notamment celles qui renforcent le système musculaire et l'état osseux, devraient être incorporées au moins trois fois par semaine.

Recommandations : 18 à 64 ans

- 150 minutes par semaine d'activité d'endurance d'intensité modérée (intensité de 3–6 MET, ou Borg : 4–5/10 ou encore 50–70 % FCmax) ou au moins 75 minutes par semaine d'activité d'endurance d'intensité soutenue (intensité > 6 MET, Borg > 6/10 ou encore > 70 % FCmax) ou une combinaison équivalente d'activité d'intensité modérée et soutenue ;
- l'activité d'endurance devrait être pratiquée par période d'au moins 10 minutes ;
- bénéfices supplémentaires pour 300 minutes d'activité modérée par semaine ou 150 minutes d'activité soutenue par semaine, ou une combinaison équivalente d'activité d'intensité modérée et soutenue;
- des exercices de renforcement musculaire faisant intervenir les principaux groupes musculaires devraient être pratiqués au moins deux jours non consécutifs par semaine.

Recommendations : après 65 ans

- les personnes âgées dont la mobilité est réduite devraient pratiquer une activité visant à améliorer l'équilibre et à prévenir les chutes au moins trois jours par semaine ;
- lorsque des personnes âgées ne peuvent atteindre les recommandations en raison de leur état de santé, elles devraient être aussi actives physiquement que leurs capacités et leur état le leur permettent.

Formation des médecins : 1^{er} et 2^{ème} cycle

- Obligatoire – inclus dans le cursus :
 - DFASM1-3 :
 - **Items 249 : Modifications thérapeutiques du mode de vie (alimentation et activité physique) chez l'adulte et l'enfant**
 - **Items 256 : Aptitude au sport chez l'adulte et l'enfant ; besoins nutritionnels chez le sportif**
 - Activité physique et Santé probablement aussi abordée dans d'autres items en fonction de la sensibilité des enseignants et disciplines (ex: diabète, HTA)
 - Volume horaire variable en fonction des facultés (environ 1 à 2h)
- Mise en place dans certaines facultés :
 - PASS :
 - 1 cours de 2h sport – santé
 - DFGSM2 :
 - UE activité physique dans le Service Sanitaire (SESS)
 - UE de Master Physiologie de l'exercice
 - DFASM1-3 :
 - UEL « médecine du sport »
 - UEL « prescrire l'activité physique »
 - UEL pratiques sportives
 - Hétérogénéité en fonction des facs, bcp ne proposant rien
- => Nécessité d'amélioration :
 - Parler de sport et santé à toutes les étapes du cursus
 - Favoriser la pratique d'activités physiques et sportives durant le cursus

Formation des médecins : 3^{ème} cycle

1. FST Médecine du Sport

- Ouverte à tous les DES
 - Prédominance de MG, MPR, +/- Rhumato, Chirurgie orthopédique, Urgentistes
- Maquette des 2 semestres adaptée selon le DES d'origine pour acquisition connaissances et compétences en
 - Physiologie de l'exercice / Surveillance médicale réglementaire / Dopage ...
 - Pathologie de l'appareil locomoteur liée à la pratique sportive (aigüe ou chronique)
 - AP et Santé / Prescription de l'activité physique adaptée
- Peu de postes ouverts (1 à 3 postes / UFR en moyenne)
- Reconnaissance ordinaire comme une « sur » spécialité

2. Enseignements au sein des DES (Médecine Générale, Endocrinologie,...)

- Non structurés
- Limités ou inexistantes

Formation des médecins : 3^{ème} cycle

- Capacité en Biologie et Médecine du Sport :
 - S'adresse aux médecins thésés et ayant validé le DES
 - Pas de nombre de places limitées
 - Formation reconnue par l'ordre des médecins et qui permet d'inscrire « médecin du sport » sur sa plaque
 - Organisation et programme variable en fonction des UFR :
 - Organisation souvent régionale
 - Pathologies et sports = 1 à 11 heures
 - Prescription d'activité physique adaptées = 1 à 11 heures

Exemple du Service Sanitaire des étudiants en santé

13 juin 2018 JOURNAL OFFICIEL DE LA RÉPUBLIQUE FRANÇAISE Texte 10 sur 122

Décrets, arrêtés, circulaires

TEXTES GÉNÉRAUX

MINISTÈRE DES SOLIDARITÉS ET DE LA SANTÉ

Décret n° 2018-472 du 12 juin 2018
relatif au service sanitaire des étudiants en santé
NOR : SSAH1807248D

Publics concernés : étudiants inscrits dans une formation donnant accès aux professions de santé régies par la quatrième partie du code de la santé publique ; établissements de formation des professionnels de santé ; établissements primaires, secondaires et de l'enseignement supérieur ; agences régionales de santé ; académies.

Objet : service sanitaire par les étudiants de formation de santé.

Entrée en vigueur : le décret entre en vigueur le lendemain de sa publication.

Notice : le service sanitaire vise à diffuser, partout sur le territoire, et notamment à destination de publics en situation de précarité, des actions de prévention conduites par des étudiants en santé. Dans chaque région, un comité régional, coprésidé par le directeur général d'agence régionale de santé et le recteur, est chargé de déterminer la stratégie visant à assurer la mise en œuvre du service sanitaire, qui s'appuie également sur un pilotage national par un comité national.

Références : les dispositions du code de la santé publique, modifiées par le décret, sont consultables sur le site Légifrance (www.legifrance.gouv.fr).

Le Premier ministre,

Sur le rapport de la ministre des solidarités et de la santé,

Vu le code de l'éducation, notamment son livre VI ;

Vu le code de la santé publique, notamment sa quatrième partie ;

Vu l'avis du Conseil national de l'enseignement supérieur et de la recherche du 20 mars 2018 ;

Vu l'avis du Haut Conseil des professions paramédicales du 27 mars 2018 ;

Vu l'avis du Conseil national d'évaluation des normes du 5 avril 2018,

Décrète :

Art. 1^e. – Au livre préliminaire de la quatrième partie du code de la santé publique, il est créé un titre VII ainsi rédigé :

« TITRE VII

« Le service sanitaire des étudiants en santé

« Art. D. 4071-1. – Le service sanitaire contribue à la promotion de la santé, notamment à la prévention, dans tous les milieux et tout au long de la vie. Il répond aux enjeux de santé publique de promotion des comportements favorables à la santé et contribue à la réduction des inégalités sociales et territoriales en matière de santé. Il permet la formation des futurs professionnels de santé et renforce leur sensibilisation à ces enjeux en assurant leur maîtrise des connaissances et compétences nécessaires.

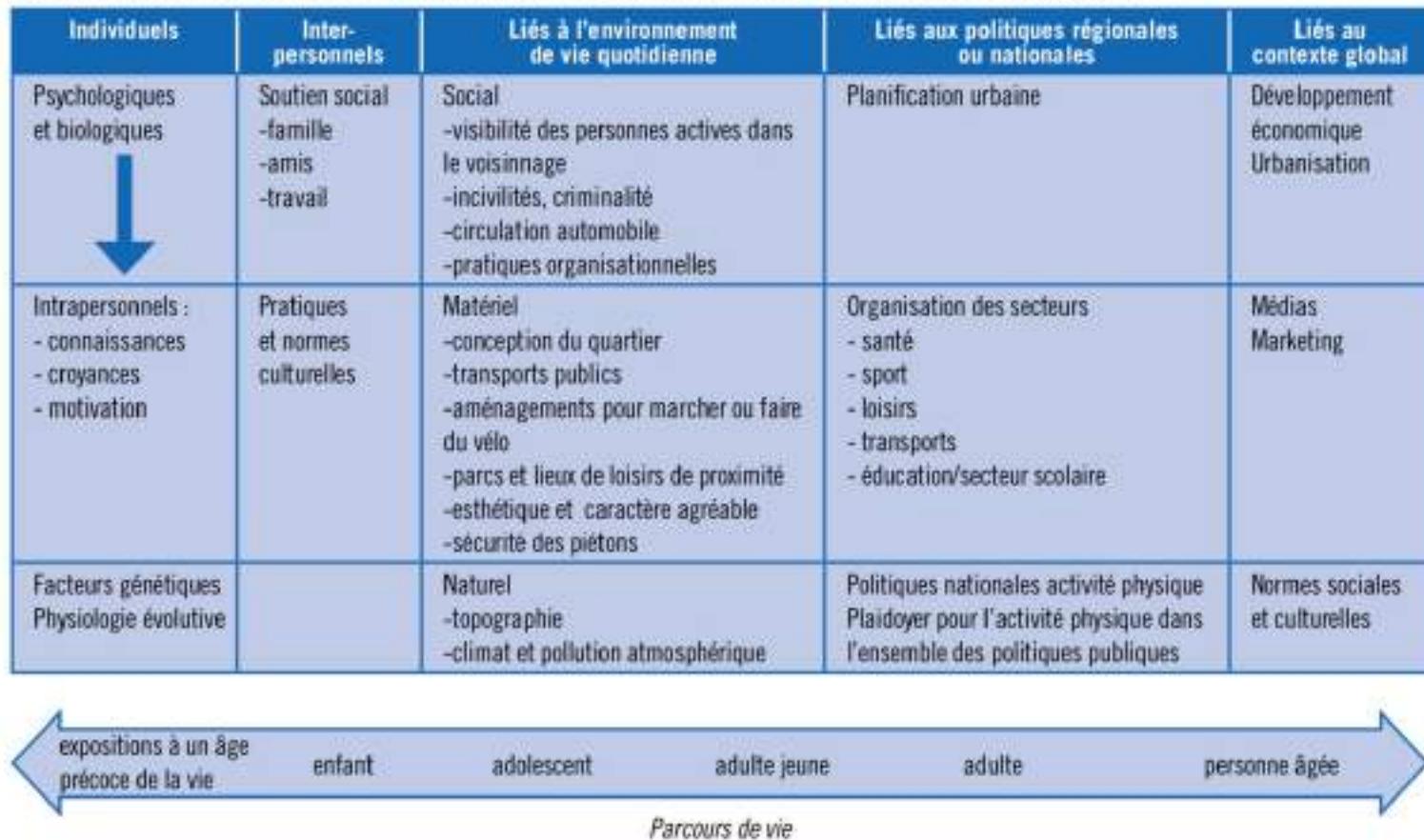
« Art. D. 4071-2. – Les étudiants inscrits dans une formation donnant accès aux professions de santé régies par la quatrième partie du présent code, effectuent un service sanitaire lorsque le texte portant organisation de leur formation le prévoit.

« Le service sanitaire vise à former ces étudiants aux enjeux de la prévention primaire par la participation à la réalisation d'actions concrètes de prévention auprès de publics identifiés comme prioritaires, notamment les élèves des établissements primaires, secondaires et les étudiants des établissements d'enseignement supérieur. Il comprend la préparation de ces actions, l'acquisition de connaissances et compétences pédagogiques spécifiques, la réalisation encadrée des actions ainsi que leur évaluation tant auprès du public concerné qu'au sein de la formation suivie.

« Le service sanitaire est organisé au sein de chaque formation sous la forme d'une ou plusieurs unités d'enseignement composées de temps de formation théorique et pratique et donne lieu à validation et à attribution de crédits européens dans des conditions fixées par arrêté des ministres chargés de la santé et de l'enseignement supérieur.

Promotion de l'activité physique

Figure 1. Facteurs individuels, sociaux, environnementaux et politiques associés à la pratique de l'activité physique.



Source : Figure adaptée et traduite par J. Pommier et C. Ferron à partir de la publication: Bauman A., Reis R., Sallis J., Wells J., Loos R., Martine B. Correlates of physical activity: why are some people physically active and others not? *The Lancet*, 2012, vol. 380, n° 9838 : p. 259.

La santé, c'est multifactoriel



<https://www.e-marketing.fr/Thematique/academie-1078/ficheoutil/Adopter-une-bonne-hygiene-de-vie-325059.htm>



Merci de votre attention

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