

目的を持った運動・スポーツ実施のための分類と考え方（案）



感動していただけるスポーツ界を目指して

スポーツ庁

室伏広治

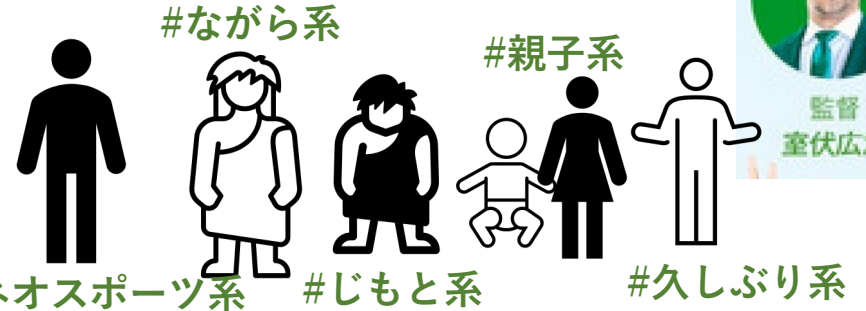
スポーツ庁のこれまでの取り組みと課題

“行動変容”から、数値を向上させるための取り組み

Team Sport in Life



監督
窪伏広治



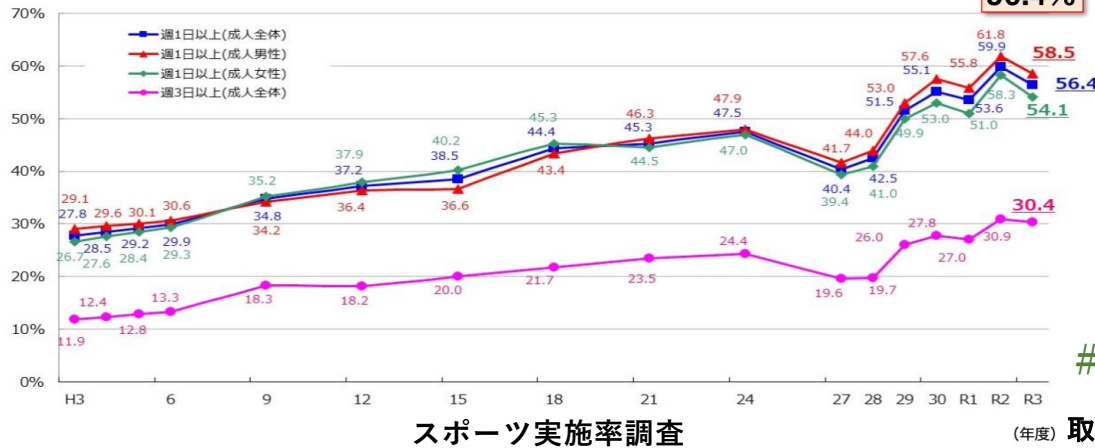
取り組み例) ながら運動系, 久しぶり運動系, 等, スポーツ参加意欲向を目的にした取り組みだが, 実際には行動変容に結びつきにくいと思われる

一方, **スポーツ・運動の方法や目的が明確化されていない**

[施策] これまでのスポーツ庁の健康増進の取り組み

- ・ 歩数カウント, カロリー消費, メタボが中心
- ・ アンケート調査が中心で “サイエンス” がない
また “エビデンス” はあっても “サイエンス” がない

成人のスポーツ実施率の状況



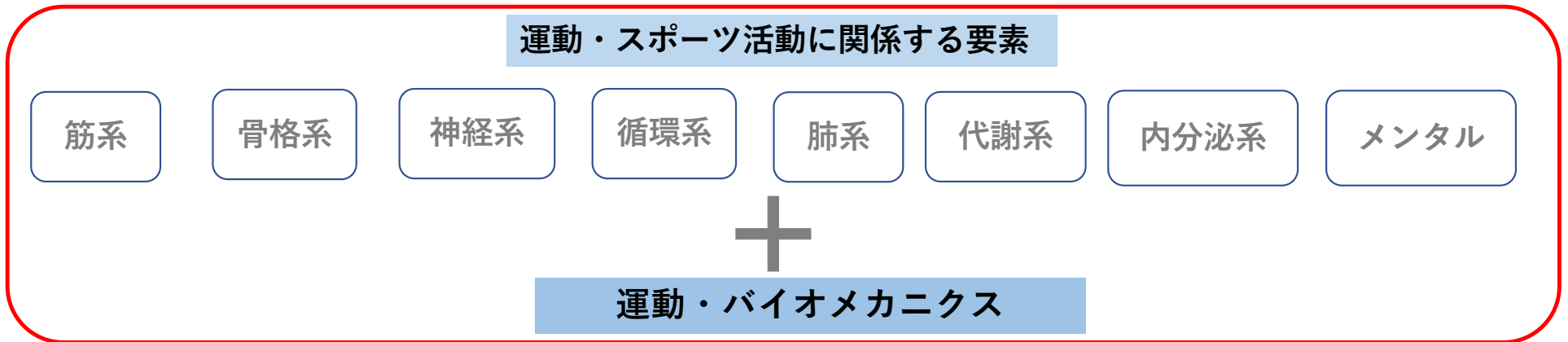
これまでスポーツ庁では, 毎年スポーツ実施率調査を行い, 数値向上を目標としてきた. 一方, どのような目的(メリット)で行うかが明確化されていない. 健康診断結果や健康に結びつくという大義もあるが, そのエビデンスはまだ乏しい.

Fukuma S, et al.JAMA.2020, Fukuma S, et al.BMJ.2022.

例) 有酸素運動を行う人にメタボは少ないというのは当たり前のエビデンスであり, 有酸素運動の内訳やどの運動系がどの機能改善に有用なのかのサイエンスは普及していない

サイエンスベースト

目的を持った運動・スポーツ実施のための運動の分類と考え方



各種・機能診断

(健康診断だけでなく、スポーツ庁が国民の各種運動器をはじめ各種機能評価等を行って改善を促すことも重要な取り組み)

* 特定健診等では血液データ等からメタボのリスクは評価されるが、ロコモは評価できない



習慣・行動変容



目的を持った運動とは？ 歩行を例として

運動・スポーツ活動に関係する要素

筋系

骨格系

神経系

循環系

肺系

代謝系

内分泌系

メンタル

+

運動・バイオメカニクス



筋系

ゆっくり
低い姿勢で歩く



神経系

小刻みに速く
その場足踏み
凸凹道を歩く
骨盤を安定させ
て歩く



メンタル

散歩・気晴らし

目的は ?



歩行

同じ歩行でも目的によって歩き方が違う

目的を持った運動とは？ 歩行を例として

ウォーキング



周知のエビデンス（どんな運動をすればよいか）

ウォーキングは健康増進に効果的

Lee IM, et al. MSSE. 2008

目的は **?** 同じウォーキングでも目的によって歩き方が違う

筋・骨格系



ゆっくり
低い姿勢で歩く
足首に錘をつける
坂を上がる

神経系



小刻みに速く
その場足踏み
凸凹道を歩く
骨盤を安定させて歩く

循環器系

呼吸器系

代謝内分泌系



有酸素運動
少し息が上がる程度で
20分歩く

心理系（メンタル）

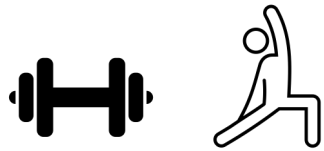


散歩・気晴らし
ハイキング

歩き方が異なれば、目的とした機能を最大化できる
移動手段がエクササイズに

更にこのような分け方も考えられる

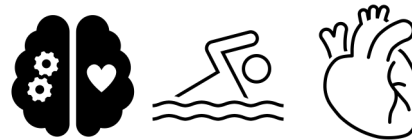
運動・スポーツ活動に関する要素



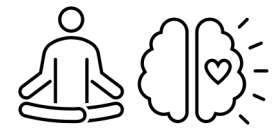
筋・骨格系 (基礎系)
(運動器系)



神経系 (調整系)
(モーターコントロール系)



心臓・肺系・代謝系 (補助系)
(体力系)



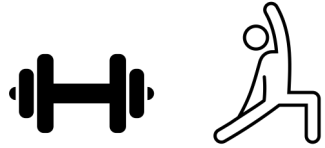
メンタル
(メンタル系)

- 客観的データ
- 定量評価
- 分析

サイエンス・DX

サイエンス・ベーストなDX施策

運動・スポーツ活動に関する要素



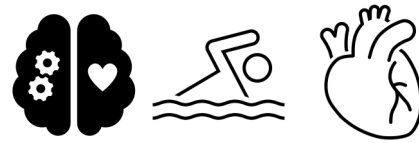
筋・骨格系 (基礎系)

(運動器系)



神経系 (調整系)

(モーターコントロール系)



心臓・肺系・代謝系 (補助系)

(体力系)



メンタル

(メンタル系)

サイエンス

対応内容：アナログ & デジタル

- 自治体、学校普及
- フィットネス、ジム、その他普及

データ蓄積

- 個人、家庭
- 企業

エビデンス・DX

参考資料

Research

JAMA Internal Medicine | Original Investigation

Association of the National Health Guidance Intervention for Obesity and Cardiovascular Risks With Health Outcomes Among Japanese Men

Shingo Fukuma, MD, PhD; Toshiaki Iizuka, PhD; Tatsuyoshi Ikenoue, MD, PhD; Yusuke Tsugawa, MD, PhD

Supplemental content

IMPORTANCE Obesity and cardiovascular risks have become major public health problems. However, evidence is limited as to whether population-level lifestyle interventions for obesity and cardiovascular risk factors are associated with improved population health outcomes.

OBJECTIVE To investigate the association of the national health guidance intervention in Japan with population health outcomes.

DESIGN, SETTING, AND PARTICIPANTS This cohort study used a regression discontinuity design that included men aged 40 to 74 years who participated in the national health screening program in Japan from April 2013 to March 2018.

EXPOSURES Assignment to the national health guidance intervention (counseling on healthy lifestyle and appropriate clinical follow-up for individuals found to have waist circumference of 85 cm or greater with 1 or more cardiovascular risk factors during annual national health screening program).

MAIN OUTCOMES AND MEASURES Changes in obesity status (body weight, body mass index, waist circumference), and cardiovascular risk factors (blood pressure, hemoglobin A_{1c} level, and low-density lipoprotein cholesterol level) 1 to 4 years after screening.

RESULTS Of 74 693 men (mean [SD] age, 52.1 [7.8] years; mean [SD] baseline waist circumference, 86.3 [9.0] cm), the assignment to the health guidance intervention was associated with lower weight (adjusted difference, -0.29 kg; 95% CI, -0.50 to -0.08; $P = .005$), body mass index (-0.10; 95% CI, -0.17 to -0.03; $P = .008$), and waist circumference (-0.34 cm; 95% CI, -0.59 to -0.04; $P = .02$) 1 year after screening. The observed association of the guidance assignment attenuated over time and was no longer significant by years 3 to 4. No evidence was found that the health guidance intervention was associated with changes in participants' systolic blood pressure, diastolic blood pressure, hemoglobin A_{1c} level, or low-density lipoprotein cholesterol level in years 1 to 4.

CONCLUSIONS AND RELEVANCE Among working-age men in Japan, the national health guidance intervention was not associated with clinically meaningful weight loss or other cardiovascular risk factor reduction. Further research is warranted to understand the specific design of lifestyle interventions that are effective in improving obesity and cardiovascular risk factors.

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BMJ Open Impact of the national health guidance intervention for obesity and cardiovascular risks on healthcare utilisation and healthcare spending in working-age Japanese cohort: regression discontinuity design

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ABSTRACT
Objectives Increases in obesity and cardiovascular diseases contribute to rapidly growing healthcare expenditures in many countries. However, little is known about whether the population-level health guidance intervention for obesity and cardiovascular risk factors is associated with reduced healthcare utilisation and spending. The aim of this study was to investigate the effect of population-level health guidance intervention introduced nationally in Japan on healthcare utilisation and spending.

Design Retrospective cohort study, using a quasiexperimental regression discontinuity design.

Setting Japan's nationwide employment-based health insurers.

Participants Participants in the national health screening programme (from January 2014 to December 2014) aged 40–74 years.

Predictors Assignment to health guidance intervention (counseling on healthy lifestyles, and referral to physicians as needed) determined primarily on whether the individual's waist circumference was above or below the cut-off value in addition to having at least one cardiovascular risk factor.

Primary and secondary outcome measures Healthcare utilisation (the number of outpatient visits days, any medication use and any hospitalisation use) and spending (total medical expenditure, outpatient medical expenditure and inpatient medical expenditure) within 3 years of the intervention.

Results A total of 51 213 individuals within the bandwidth (±5 cm of waist circumference from the cut-off) out of 113 302 screening participants (median age 50.0 years, 11.9% woman) were analysed. We found that the assignment to the national health guidance intervention was associated with fewer outpatient visit days (-1.3 days; 95% CI, -11.4 to -0.5 days; $p=0.03$). We found no evidence that the assignment to the health guidance intervention was associated with changes in medication or hospitalisation use, or healthcare spending.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ First study to investigate the effect of a national health guidance intervention on healthcare spending and utilisation of care, using a robust quasiexperimental causal design.
- ⇒ Nationwide health screening data and medical claims data in Japan.
- ⇒ Some variations in the national health guidance intervention.
- ⇒ Secondary outcome of any hospitalisation including hospitalisations due to non-cardiovascular diseases.

Conclusion Among working-age, male-focused Japanese from a health insurer of companies of civil engineering and construction, the national health guidance intervention might be associated with a decline in outpatient visits, with no change in medication/hospitalisation use or healthcare spending.

INTRODUCTION

Obesity and obesity-related diseases, such as diabetes and hypertension, are the major causes of disease burdens and increasing health expenditures in many countries. In the USA, annual health expenditures relating to obesity, diabetes and hypertension are US\$ 147 billion,¹ US\$ 237 billion² and US\$ 151 billion,³ respectively. In addition, individuals with obesity have a higher risk of coronary heart disease, stroke and cancer, further contributing to higher disease burdens and health expenditures. At the global level, the prevalence of obesity has been increasing in most countries, regardless of their sociodemographic indices,⁴ causing 4 million deaths annually, two-thirds of which are due to cardiovascular diseases. Despite

Fukuma S, et al. BMJ. 2022

建設業を営む企業の健康保険に加入している現役世代の男性を対象に、国民保健指導を実施したところ、外来受診の減少につながった可能性がある。国民保健指導は、外来受診率の低下と関連する可能性があるが、投薬・入院や医療費には変化がない。