NTNU | Kunnskap for en bedre verden

Fysisk aktivitetsnivå og helserelatert livskvalitet blant deltakere ved norske frisklivssentraler

Flerregionalt forskningsprosjekt ved 32 frisklivssentraler 2016-2019

Ellen Eimhjellen Blom

Webinar 16.des. 2020

Primærhelsetjenestens arbeid med livsstilsendring hos voksne

Illustrasjon: Frisklivssentralen Kristiansand

Agenda

- Formål
- Utvalg
- Metode
- Resultater
  - ❖ Artikkel 1, 2 og 3
- Oppsummering

Illustrasjon:: Helsedirektoratet.no/tema/frisklivssentraler

Formål

Daglig fysisk aktivitetsnivå

Helserelatert livskvalitet

Hvem er deltakerne ved frisklivssentralene?

Skjer det endringer hos deltakerne etter 3mnd oppfølging og etter 15 mnd?

Faktorer med betydning for endring?

Er det sammenhenger mellom fysisk aktivitetsnivå og livskvalitet?

Bilde: Idebank.frisklivssentralen

Utvalg

Frisklivssentraler

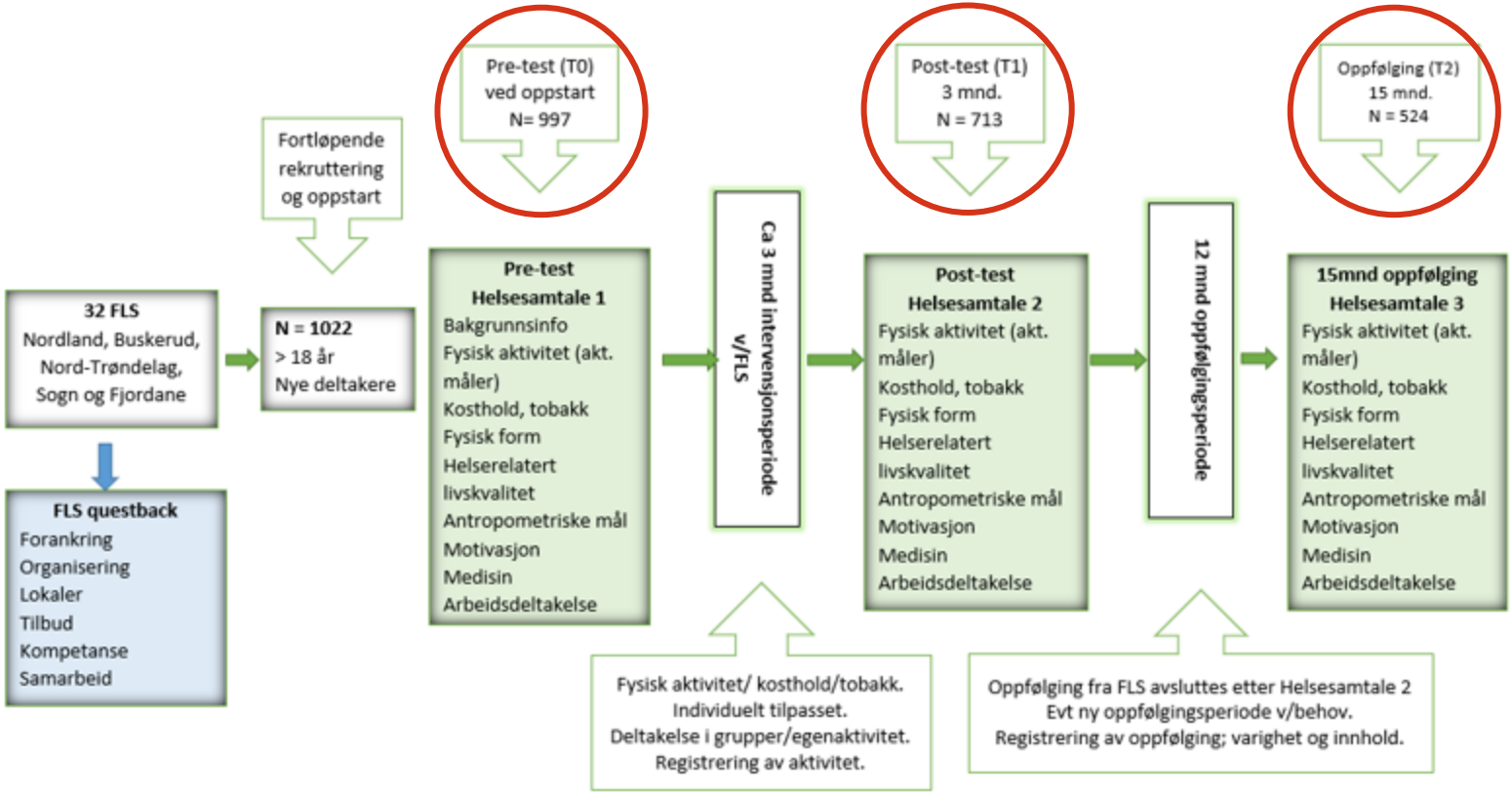
- 4 fylker
- 32 frisklivssentraler
- Organisert i henhold til anbefalinger fra Helsedirektoratet [1]

Deltakere

- ≥ 18 år
- Fysisk aktivitet / kosthold / tobakk
- 2016-2018
- 1 022 personer takket ja

[1] Helsedirektoratet. (2019). *Veileder for kommunale frisklivssentraler. Etablering, organisering og tilbud*

Forløpet i studien og datainnsamlingen



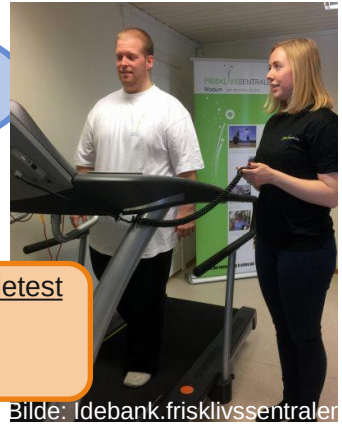
Metode

Prospektiv observasjonsstudie

Fysisk aktivitet

ActiGraph GT3X+ akselerometer
- Totalt daglig aktivitetsnivå
- Aktivitet i ulike intensitetssoner

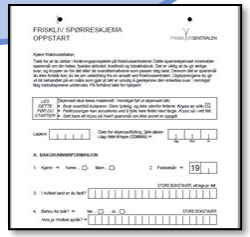
Aerob kapasitet



Subaksimal tredemølletest
- Gå-protokoll
- Total test-tid

Bilde: Idebank.frisklivssentralen

Helserelatert livskvalitet



SF-36 – 8 dimensjoner
- Fysisk funksjon
- Fysisk rollefunksjon
- Kroppslige smerter
- Generell helse
- Vitalitet
- Sosial funksjon
- Emosjonell rollefunksjon
- Mental helse

Kropps-sammensetning

Bilder: Øystein Lærum

- Kroppsmasseindeks
- Midjemål
- Liv-hofteratio

Statistisk metode
Linear mixed model
Justering for klustereffekt av deltaker og frisklivssentral

Blom et al. Scand.J.Pub.Health, 2019

Resultater

PLOS ONE | RESEARCH ARTICLE

Health-related quality of life and intensity-specific physical activity in high-risk adults attending a behavior change service within primary care

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Competing interests: The authors have declared that no competing interests exist.

Abstract

Objectives

Health-related quality of life (HRQoL) is an important outcome for health interventions, such as physical activity (PA) promotion among high-risk populations. The aim of this study was to investigate levels of PA and HRQoL, and associations between PA and HRQoL, in participants attending a behavior change service within primary care in Norway.

Methods

Adult participants (≥ 18 years) from 32 Healthy Life Centers (HLCs) in four regions of Norway, who provided valid data on HRQoL (SF-36) and PA (ActiGraph accelerometer) were included (N = 835). HRQoL scores were compared to normative data by independent sample t-tests. Associations between eight dimensions of HRQoL and time spent sedentary (SED), in light PA (LPA) or in moderate to vigorous PA (MVPA) were determined using general linear models adjusted for relevant confounders.

Results

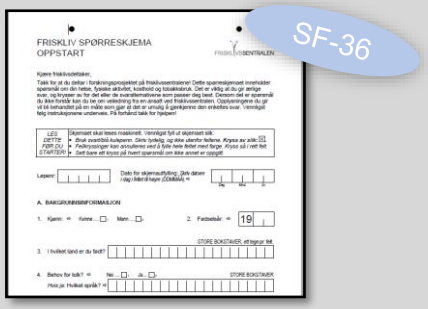
Nineteen percent of the participants (mean age 50; body mass index 32) met PA recommendations of > 150 min MVPA per week. SF-36 scores were 10 to 28 points lower than the norm (all $p < 0.001$). Positive associations were found between MVPA and the SF-36 dimensions physical functioning, role physical, general health and vitality, (all $p < 0.045$). LPA was positively associated with physical functioning, role physical, general health, vitality and role emotional (all $p < 0.046$). Time spent SED was negatively associated with physical functioning, general health, vitality, social functioning and mental health (all $p < 0.030$).

N = 835

Hvem er deltakerne ved frisklivssentralene?

- Bakgrunnskarakteristikk
- Fysiske aktivitetsnivå
- Helserelatert livskvalitet

Er det sammenhenger mellom fysisk aktivitetsnivå og livskvalitet?



FRISKLIV SPØRRESKJEMA OPPSTART

SF-36

Hvem er deltakerne?

N = 835

Foto: Idebank.frisklivssentralen

Helsestatus

- ✓ KMI 32 kg/m^2
- ✓ Ingen sykdommer: 10%
- ✓ To eller flere sykdommer: 62%

- ✓ Overvekt/fedmme
- ✓ Muskel/skjelett
- ✓ Hypertensjon
- ✓ Psykiske lidelser/problemer

Livsstilsvaner

- ✓ 23% røykte daglig eller av og til
- ✓ 77% spiste <u>ikke</u> «5 om dagen»

Primære oppfølgingsønsker

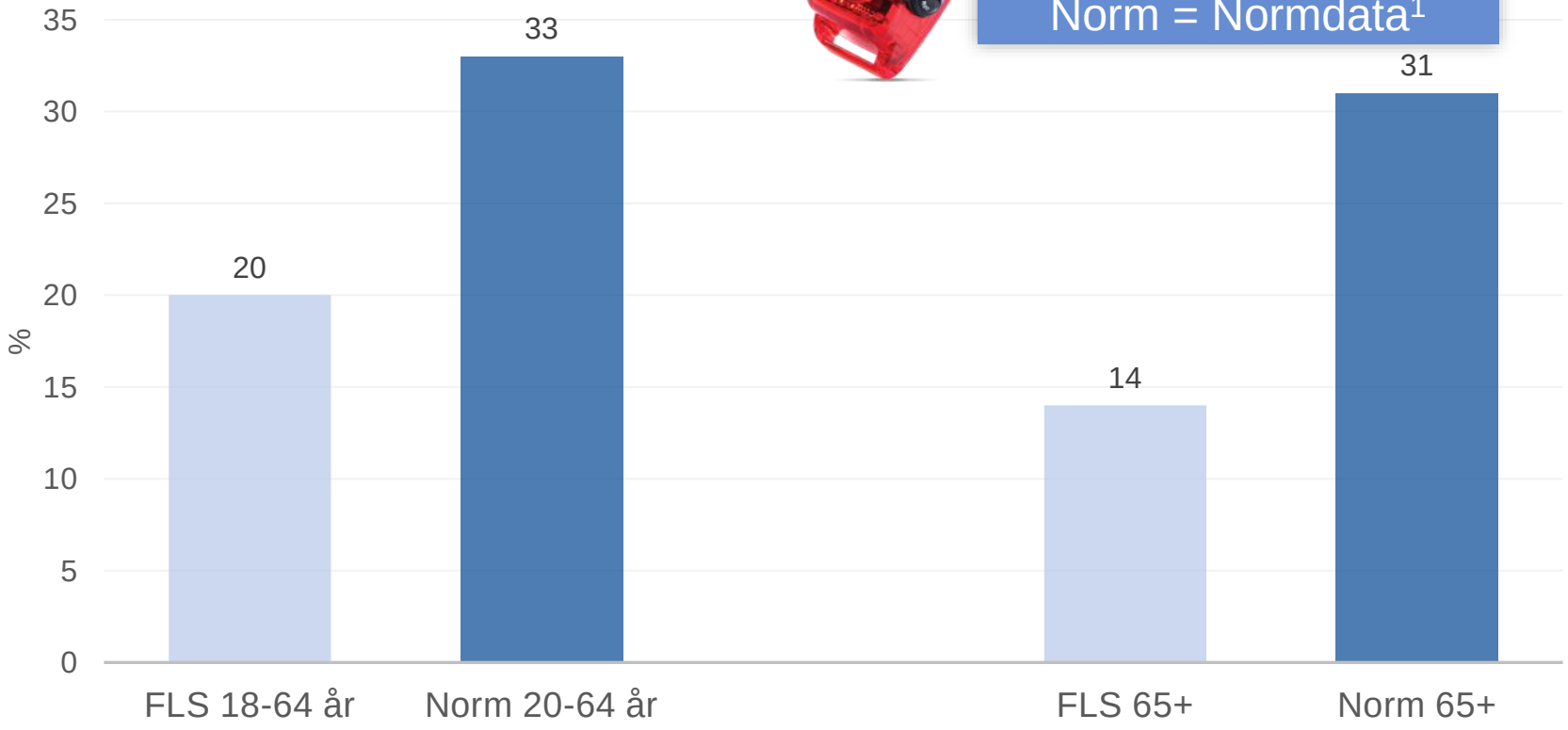
- ➢ Hjelp til å slutte å røyke: 3%
- ➢ Endring av kosthold: 35%
- ➢ Øke fysisk aktivitetsnivå: 92%

Foto: Inger Merete Skarpaas

Fysisk aktivitetsnivå ved oppstart sammenlignet med den generelle befolkningen[1]

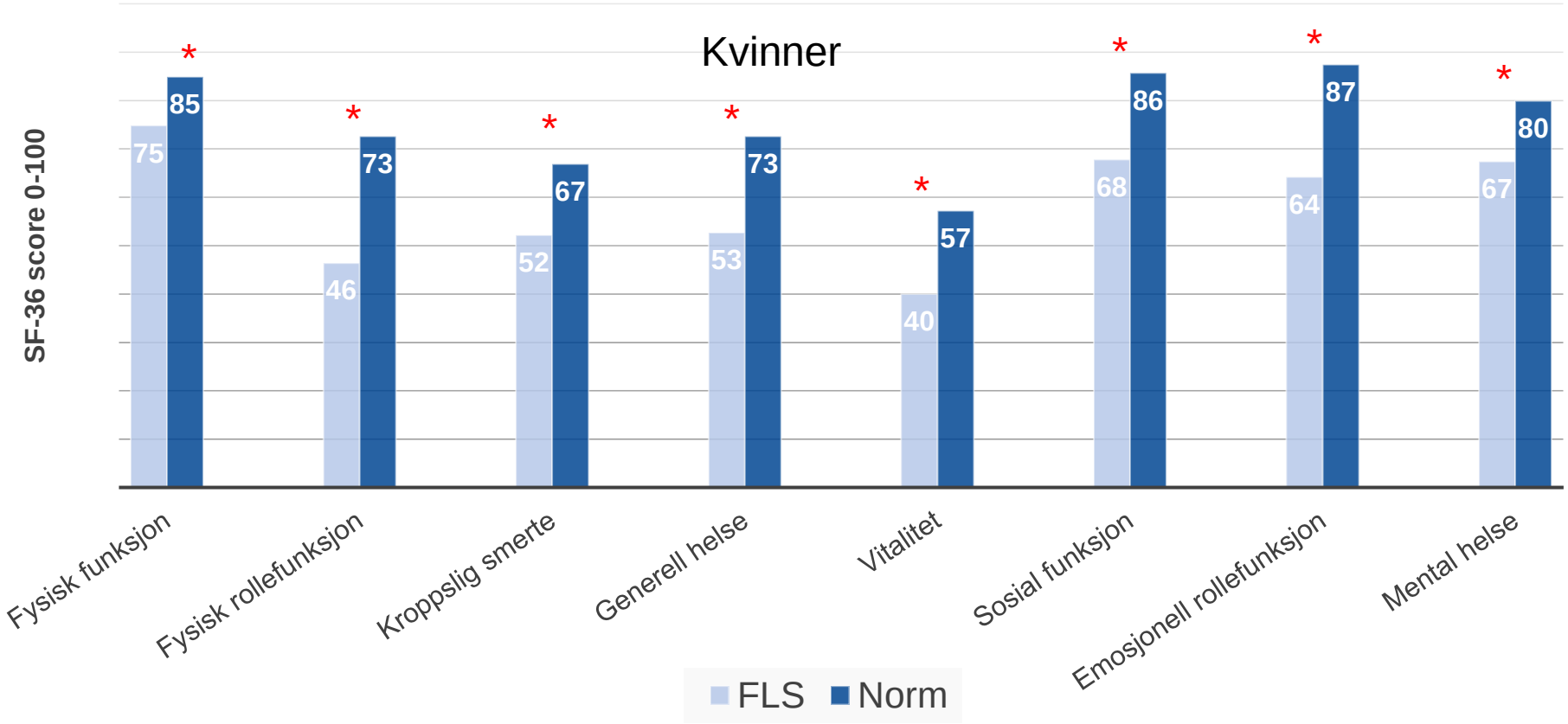
FLS = Frisklivsdeltakere

Norm = Normdata[1]



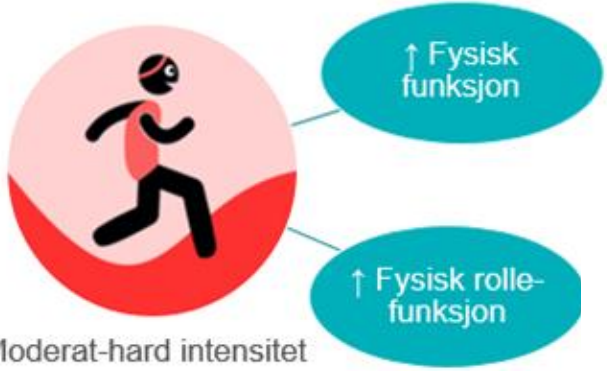
[1]"Normdata fra KAN-2 studien, Hansen BH et al. Scand J Med Sci Sports. 2019

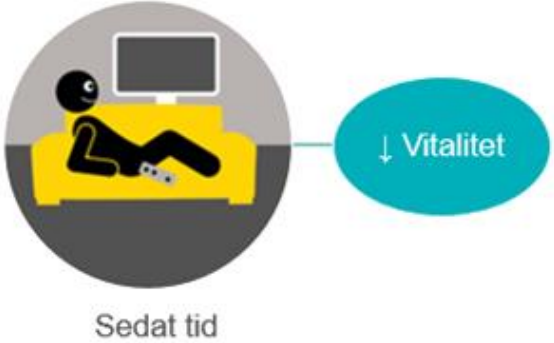
Helserelatert livskvalitet ved oppstart sammenlignet med den generelle befolkningen[1]

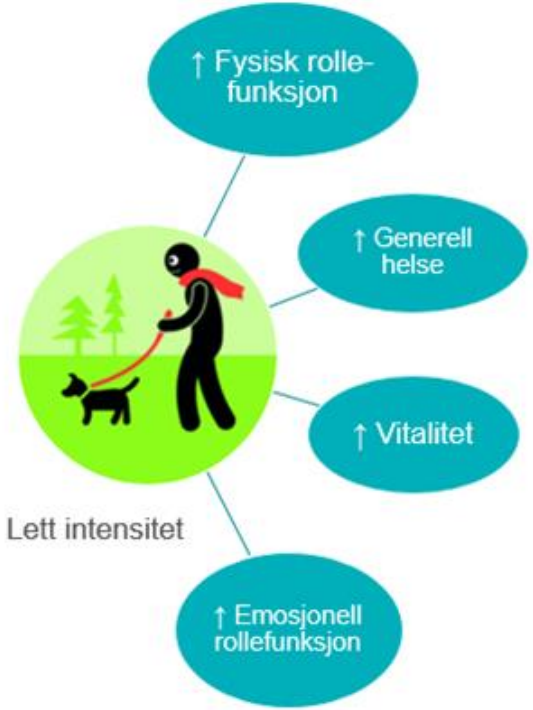


[1] Normdata fra Jacobsen E et al., Qual Life Res. 2018

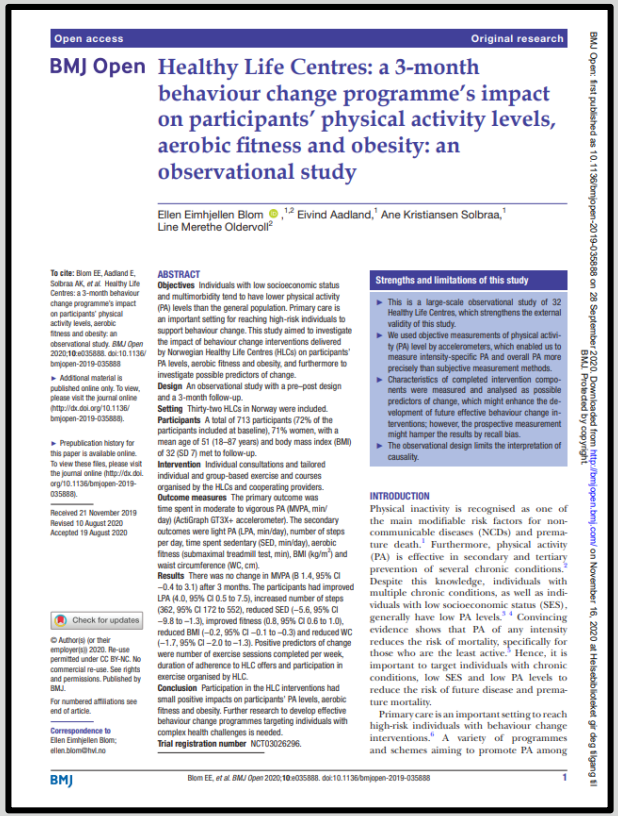
Sammenhenger mellom fysisk aktivitetsnivå og helserelatert livskvalitet







Resultater



Open access — Original research

BMJ Open

Healthy Life Centres: a 3-month behaviour change programme's impact on participants' physical activity levels, aerobic fitness and obesity: an observational study

Ellen Eimhjellen Blom,[1,2] Eivind Aadland,[1] Ane Kristiansen Solbraa,[1] Line Merethe Oldervoll[2]

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► Additional material is published online only. To view, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2019-035888).

► Prepublication history for this paper is available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2019-035888).

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ABSTRACT

Objectives Individuals with low socioeconomic status and multimorbidity tend to have lower physical activity (PA) levels than the general population. Primary care is an important setting for reaching high-risk individuals to support behaviour change. This study aimed to investigate the impact of behaviour change interventions delivered by Norwegian Healthy Life Centres (HLCs) on participants' PA levels, aerobic fitness and obesity, and furthermore to investigate possible predictors of change.
Design An observational study with a pre–post design and a 3-month follow-up.
Setting Thirty-two HLCs in Norway were included.
Participants A total of 713 participants (72% of the participants included at baseline), 71% women, with a mean age of 51 (18–87 years) and body mass index (BMI) of 32 (SD 7) met to follow-up.
Intervention Individual consultations and tailored individual and group-based exercise and courses organised by the HLCs and cooperating providers.
Outcome measures The primary outcome was time spent in moderate to vigorous PA (MVPA, min/day) (ActiGraph GT3X+ accelerometer). The secondary outcomes were light PA (LPA, min/day), number of steps per day, time spent sedentary (SED, min/day), aerobic fitness (submaximal treadmill test, min), BMI (kg/m^2) and waist circumference (WC, cm).
Results There was no change in MVPA (B 1.4, 95% CI −0.4 to 3.1) after 3 months. The participants had improved LPA (4.0, 95% CI 0.5 to 7.5), increased number of steps (362, 95% CI 172 to 552), reduced SED (−5.6, 95% CI −9.8 to −1.3), improved fitness (0.8, 95% CI 0.6 to 1.0), reduced BMI (−0.2, 95% CI −0.1 to −0.3) and reduced WC (−1.7, 95% CI −2.0 to −1.3). Positive predictors of change were number of exercise sessions completed per week, duration of adherence to HLC offers and participation in exercise organised by HLC.
Conclusion Participation in the HLC interventions had small positive impacts on participants' PA levels, aerobic fitness and obesity. Further research to develop effective behaviour change programmes targeting individuals with complex health challenges is needed.
Trial registration number NCT03026296.

Strengths and limitations of this study

- ► This is a large-scale observational study of 32 Healthy Life Centres, which strengthens the external validity of this study.
- ► We used objective measurements of physical activity (PA) level by accelerometers, which enabled us to measure intensity-specific PA and overall PA more precisely than subjective measurement methods.
- ► Characteristics of completed intervention components were measured and analysed as possible predictors of change, which might enhance the development of future effective behaviour change interventions; however, the prospective measurement might hamper the results by recall bias.
- ► The observational design limits the interpretation of causality.

INTRODUCTION

Physical inactivity is recognised as one of the main modifiable risk factors for non-communicable diseases (NCDs) and premature death.[1] Furthermore, physical activity (PA) is effective in secondary and tertiary prevention of several chronic conditions.[2] Despite this knowledge, individuals with multiple chronic conditions, as well as individuals with low socioeconomic status (SES), generally have low PA levels.[3 4] Convincing evidence shows that PA of any intensity reduces the risk of mortality, specifically for those who are the least active.[5] Hence, it is important to target individuals with chronic conditions, low SES and low PA levels to reduce the risk of future disease and premature mortality.

Primary care is an important setting to reach high-risk individuals with behaviour change interventions.[6] A variety of programmes and schemes aiming to promote PA among

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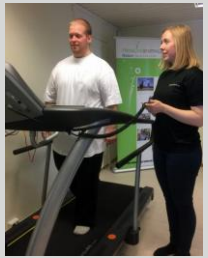
N = 713

Skjer det endringer hos deltakerne etter 3mnd oppfølging ved frisklivssentral?

- ➢ Fysisk aktivitetsnivå
- ➢ Aerob kapasitet
- ➢ Kroppssammensetning

Hvilke faktorer har betydning for endring?

- ➢ Individuelle
- ➢ Gjennomført intervensjon



Endring i fysisk aktivitetsnivå, aerob kapasitet og kroppssammensetning etter 3 måneder

Utfallsmål	Gjennomsnitt oppstart	Gjennomsnittlig endring (95% KI)	
Fysisk aktivitetsnivå			
MVPA (min/dag)	35.4 (21.6)	1.4 (- 0.4, 3.1)	
VPA (min/dag)	0.9 (2.4)	0.0 (- 0.2, 0.2)	
10-min MVPA blokker (min/dag)	10.6 (14.7)	0.5 (- 0.9, 1.8)	
LPA (min/dag)	177.0 (51.6)	4.0 (0.5, 7.5)	*
SED (min/dag)	616.7 (72.4)	- 5.6 (- 9.8, - 1.3)	*
Total fysisk aktivitet (cpm)	281 (116)	11 (1, 20)	*
Skritt (antall/dag)	6070 (2513)	362 (173, 552)	*
Aerob kapasitet			
Total test-tid (min)	12.3 (2.9)	0.8 (0.6, 1.0)	*
Kropsssammensetning			
KMI (kg/m^2)	32.3 (6.7)	- 0.2 (-0.1, - 0.3)	*
Livvidde (cm)	105.7 (17.1)	- 1.7 (- 2.0, - 1.3)	*
Liv-hofte ratio (cm)	0.95 (0.10)	- 0.01 (- 0.00, - 0.01)	*

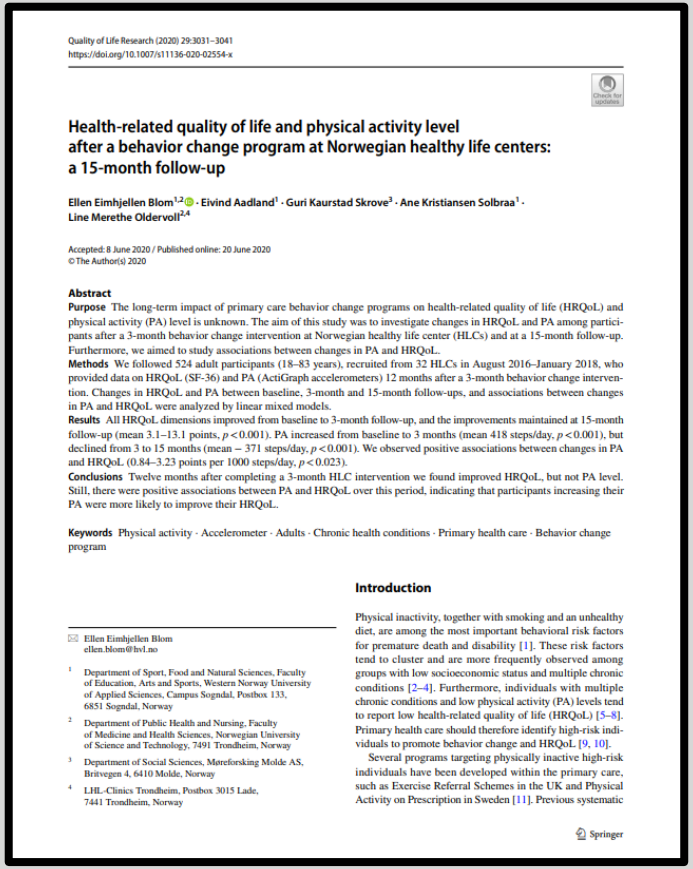
Faktorer med betydning for endring

↑ Antall gjennomførte aktivitetsøkter pr uke

↑ Antall uker med aktiv oppfølging ved frisklivssentral

✓ Deltatt på trening i regi av frisklivssentral vs. andre eller egentrening

Resultater



Quality of Life Research (2020) 29:3031–3041
https://doi.org/10.1007/s11136-020-02554-x

Health-related quality of life and physical activity level after a behavior change program at Norwegian healthy life centers: a 15-month follow-up

Ellen Eimhjellen Blom[1,2] · Eivind Aadland[1] · Guri Kaurstad Skrove[3] · Ane Kristiansen Solbraa[1] · Line Merethe Oldervoll[2,4]

Accepted: 8 June 2020 / Published online: 20 June 2020
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Abstract

Purpose The long-term impact of primary care behavior change programs on health-related quality of life (HRQoL) and physical activity (PA) level is unknown. The aim of this study was to investigate changes in HRQoL and PA among participants after a 3-month behavior change intervention at Norwegian healthy life center (HLCs) and at a 15-month follow-up. Furthermore, we aimed to study associations between changes in PA and HRQoL.

Methods We followed 524 adult participants (18–83 years), recruited from 32 HLCs in August 2016–January 2018, who provided data on HRQoL (SF-36) and PA (ActiGraph accelerometers) 12 months after a 3-month behavior change intervention. Changes in HRQoL and PA between baseline, 3-month and 15-month follow-ups, and associations between changes in PA and HRQoL were analyzed by linear mixed models.

Results All HRQoL dimensions improved from baseline to 3-month follow-up, and the improvements maintained at 15-month follow-up (mean 3.1–13.1 points, $p < 0.001$). PA increased from baseline to 3 months (mean 418 steps/day, $p < 0.001$), but declined from 3 to 15 months (mean − 371 steps/day, $p < 0.001$). We observed positive associations between changes in PA and HRQoL (0.84–3.23 points per 1000 steps/day, $p < 0.023$).

Conclusions Twelve months after completing a 3-month HLC intervention we found improved HRQoL, but not PA level. Still, there were positive associations between PA and HRQoL over this period, indicating that participants increasing their PA were more likely to improve their HRQoL.

Keywords Physical activity · Accelerometer · Adults · Chronic health conditions · Primary health care · Behavior change program

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Introduction

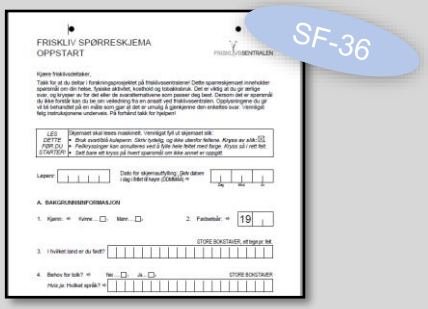
Physical inactivity, together with smoking and an unhealthy diet, are among the most important behavioral risk factors for premature death and disability [1]. These risk factors tend to cluster and are more frequently observed among groups with low socioeconomic status and multiple chronic conditions [2–4]. Furthermore, individuals with multiple chronic conditions and low physical activity (PA) levels tend to report low health-related quality of life (HRQoL) [5–8]. Primary health care should therefore identify high-risk individuals to promote behavior change and HRQoL [9, 10].

Several programs targeting physically inactive high-risk individuals have been developed within the primary care, such as Exercise Referral Schemes in the UK and Physical Activity on Prescription in Sweden [11]. Previous systematic

N = 524

Skjer det endringer hos deltakerne etter 3mnd oppfølging og over tid (15 mnd)?

Er det sammenhenger mellom endring i fysisk aktivitetsnivå og endring i livskvalitet?



SF-36

FRISKLIV SPØRRESKJEMA
OPPSTART

FRISKLIVSSENTRALEN

Kjære friskliv-deltaker,

Takk for at du deltar i forskningsprosjektet på friskliv-sentralene! Dette spørreskjemaet inneholder spørsmål om din helse, fysisk aktivitet, kostholdi og tobakksbruk. Det er viktig at du gir ærlige svar, og krysser av for det eller de svaralternativene som passer deg best. Dersom det er spørsmål du ikke forstår kan du be om veiledning fra en ansatt ved friskliv-sentralen. Opplysningene du gir vil bli behandlet på en måte som gjør at det er umulig å gjenkjenne den enkeltes svar. Vennligst følg instruksjonene underveis. På forhånd takk for hjelpen!

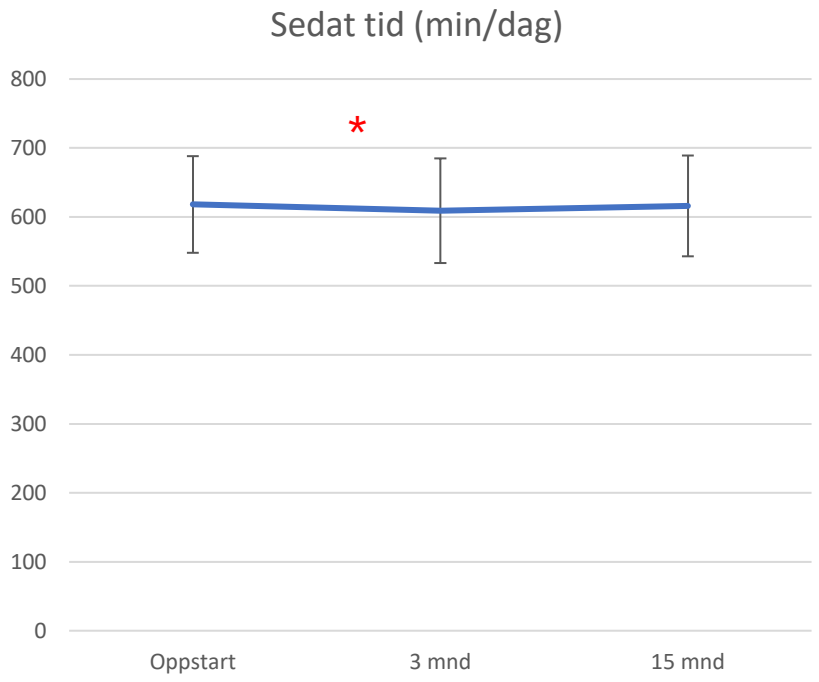
LES DETTE FØR DU STARTER!
- Bruk svarblad Autopenn. Skriv tydelig, og ikke utenfor feltene. Krysse av slik: ☒
- Fødselsnummer kan unnvaires ved å fylle hele feltet med farge. Krysse av i rett felt
- Det bare ett kryss på hvert spørsmål om ikke annet er oppgitt.

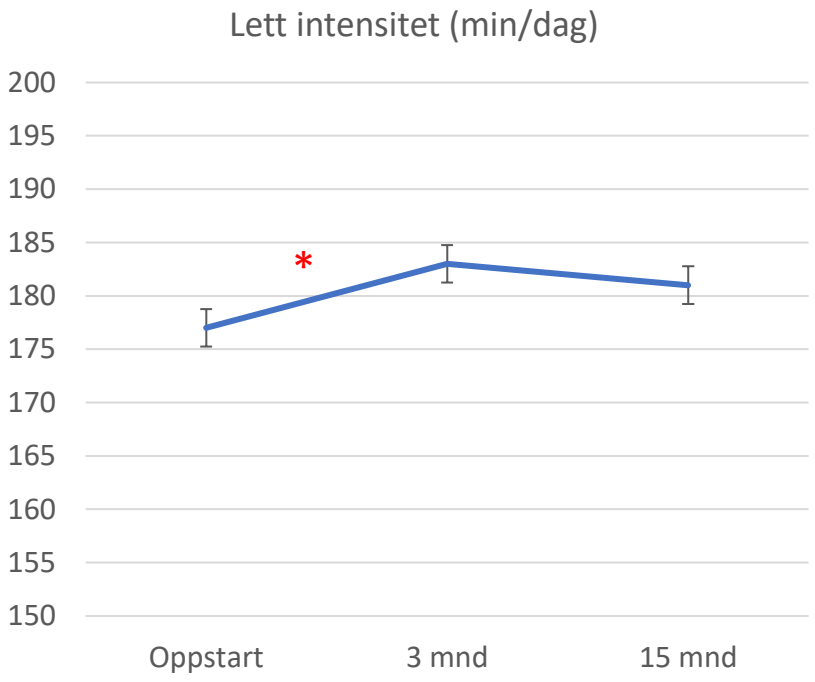
Lagerer: ☐ Dato for skjemautfylling: Dårlig dato/dag/ikke-tilsatt (DD/MM/ÅÅ): ☐ DD MM ÅÅ

A. BAKGRUNNSINFORMASJON

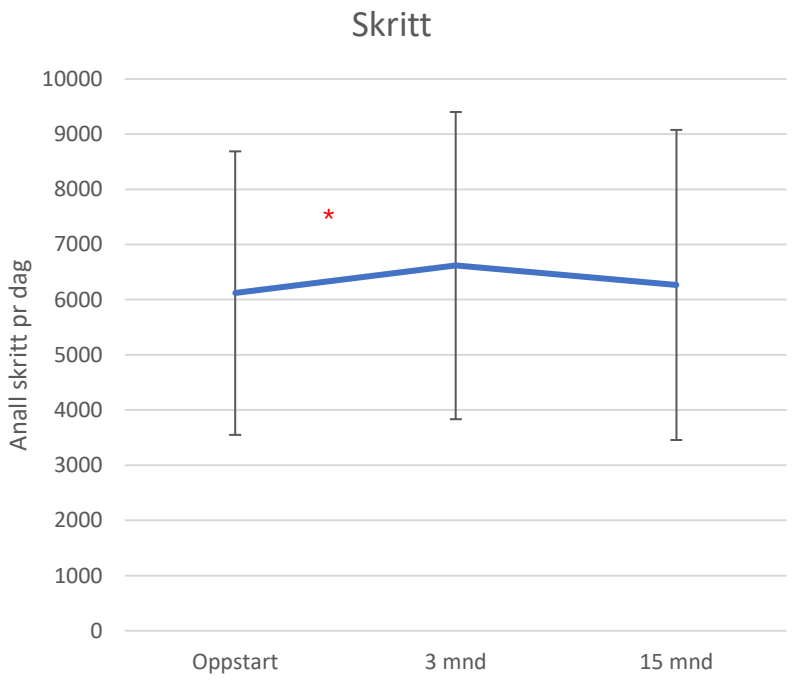
1. Kjønn: → Kvinne ☐ Mann ☐
2. Fødselsår: → 19 ☐
3. I hvilket land er du født? STORE BOKSTAVER, ett bokstav i det ☐
4. Behov for tolk? → Nei ☐ Ja ☐ STORE BOKSTAVER
Hvis ja: Hvilket språk? → ☐

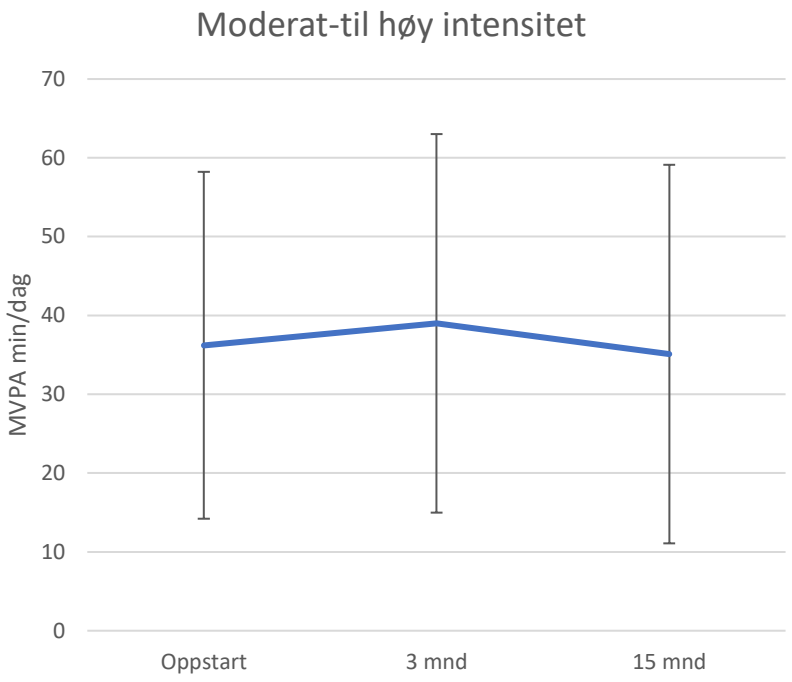
Endringer i fysisk aktivitetnivå fra oppstart til 15 mnd





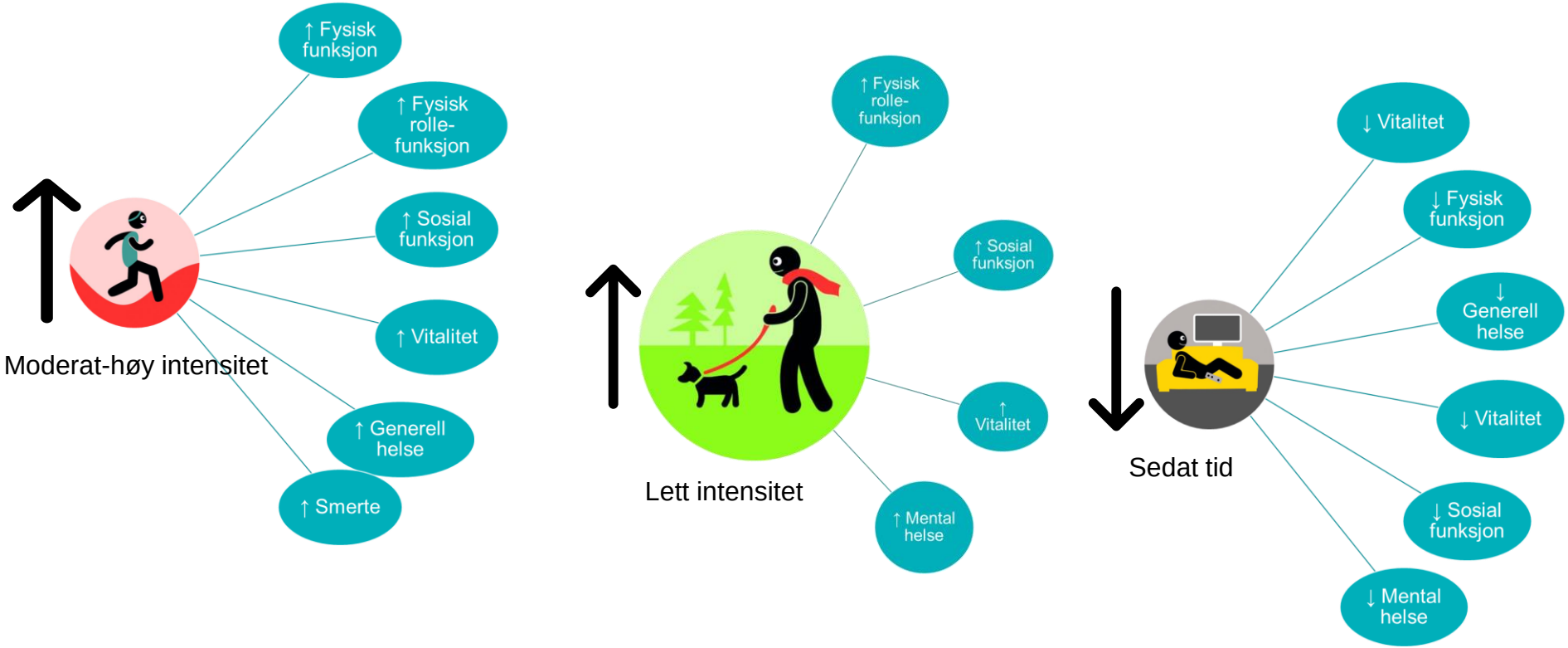
Endringer i fysisk aktivitetnivå fra oppstart til 15 mnd





Endring i helserelatert livskvalitet

Sammenheng mellom endring i ulike intensiteter av fysisk aktivitet og endring i dimensjoner av helserelatert livskvalitet



Oppsummering

Hvem er deltakerne ved frisklivssentralene?

- ✓ Personer med flere kroniske helseutfordringer
- ✓ Lavt fysisk aktivitetsnivå
- ✓ Lav helserelatert livskvalitet

Skjer det endringer hos deltakerne etter 3mnd oppfølging og etter 15 mnd?

- ✓ Små positive endringer etter 3 mnd i
  - Fysisk aktivitetsnivå
  - Aerob kapasitet
  - Kroppssammensetning
- ✓ Fysisk aktivitetsnivå ikke vedlikeholdt etter 15 mnd
- ✓ Helserelatert livskvalitet vesentlig forbedret etter 3 mnd - vedlikehold etter 15 mnd

Faktorer med betydning for endring?

- ✓ Omfang av gjennomføring

Er det sammenhenger mellom fysisk aktivitetsnivå og livskvalitet?

- ✓ Positive sammenhenger i tverrsnittsdata
- ✓ Positive sammenhenger mellom endringer

Takk til alle deltakere og ansatte ved frisklivssentralene!

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FRISKLIVSSENTRALEN

MØREFORSKING MOLDE

Høgskulen på Vestlandet

NTNU

Nordland FYLKESKOMMUNE

BUSKERUD FYLKESKOMMUNE

Nord-Trøndelag fylkeskommune

SOGN OG FJORDANE FYLKESKOMMUNE

Helsedirektoratet

Lenker til artiklene i presentasjonen

- Blom EE, Oldervoll L, Aadland E, Solbraa AK, Skrove GK. Impact and implementation of Healthy Life Centres, a primary-care service intervention for behaviour change in Norway: Study design. Scand J Public Health. 2019:1403494819856832.
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- https://pubmed.ncbi.nlm.nih.gov/31860678/

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- https://link.springer.com/article/10.1007/s11136-020-02554-x

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Takk for oppmerksomheten!

Ellen Eimhjellen Blom, 8.desember 2020