eRehabilitation for heart patients

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Why support over distance?

Ikkegideg.no

Tailoring on models of health behavior

Study design

Results
Why over distance?

European average = 105 persons per square km

Northern Norway = 4,1 persons per square km

[...]Yes, my place is far from a city... we have no swimming pool or any big activities. We should just organize our own activities...when we live far, far in a village.
Reduction in cardiovascular cause deaths and hospital admission and improvements in health-related quality of life.

Reduction in symptoms of anxiety and depression, and maybe cardiac mortality.

eHealth exercise interventions can be effective

A meta-analysis from 2012 showed that they can increase physical activity, pedometer steps, and minutes of exercise.

Fanning et al., J Med Internet Res 2012;14(6):e161
But it is also what the users want

I am like this, I need a bit of encouragement from the others, to manage alone, it is the problem...so this with the local team, it can be a useful boost or also approach...

What do you need?
Combining Users’ Needs With Health Behavior Models in Designing an Internet- and Mobile-Based Intervention for Physical Activity in Cardiac Rehabilitation

Antypas K, Wangberg SC

JMIR Res Protoc 2014;3(1):e4
Operation

ikkegideg.no (don’t give up now)

Cardiac Rehabilitation
Brukerkonto

Mine mål

Endre dine mål

Ditt ukentlige mål for moderat intensitet er 140 minutter, og du har planlagt 80 minutter. Du må planlegge 148 minutter mer av moderat intensitet fysisk aktivitet for å nå dette målet.

Ditt ukentlige mål for høy intensitet er 80 minutter, og du har planlagt 80 minutter til nå.

Kommende aktiviteter

Du har ingen kommende aktiviteter. På tiden 8 planlegger litt!

Hvordan har du det i dag?

Møte 340

Testgruppsfører har gjort en aktivitet: balansering, oppheving, lær 24.des

 interval: 15 minutter

 led: 20 min.

 Testgruppsfører

 Du kan skrive denne etter!

 Beskriv kommentaren:
 4 skrive

 Hanne Old svarer på Vekkommun til den nye trikklag.no

 Testar din responsfor de tusen. Kan jeg støtte denne meldingen eller ikke?

 Beskriv kommentaren:
 3 skriver

 LHL

 Rehabilitering (LHL) Helse A/S

 Adresse: 5623 Stavanger - Postadresse: 5623 Stavanger

 Telefon: 77 33 50 99 - Telefax: 77 33 50 99 - E-post: info@lhl.no

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### testgroup1

Ingen innlegg i denne gruppa.

- **testgroup1m1** har gjort en aktivitet - **boksing, sparring - Lør, 24 des.**
  - Intensitet: 15 Anstrengende
  - Tid brukt: 20 min.
  - 13 min siden
  - Legg til kommentar

- **testgroup1m1** svarte på **Velkommen til den nye ikkegideg.no**
  - Ja, du kan slьте denne etterpå!
  - Besvar kommentaren
  - 3 time siden

- **kostas** har lagt til en Aktivitet **Ballspill, fotball/håndball - Man, 16 jan.**
  - En uke siden
  - Legg til kommentar

- **kostas** har lagt til en Aktivitet **fiske, annet - Ons, 11 jan.**
  - 2 uker siden
  - Legg til kommentar

- **kostas** har opprettet en diskusjon:
  - **Velkommen til den nye ikkegideg.no**
  - Her kan du gi tilbakemelding på design, innhold og funksjonalitet.
    - https://ikkegideg.no/node/737
  - 3 uker siden
  - Legg til kommentar

- **kostas** har lagt til en Aktivitet **Videospill (Wi fi) trening via TV/video, alene - Ons, 11 jan.**
  - 2 uker siden
### Ikke gi deg no!
Skibotn rehabilitering

<table>
<thead>
<tr>
<th>Front</th>
<th>Min side</th>
<th>Hjelp</th>
<th>Aktuelle tema</th>
<th>Diskusjoner</th>
<th>Likemannsarbeid</th>
</tr>
</thead>
</table>

- Hjem > Medlemmer > testgroup1m1

### Min profil

**Mine venner**
- kostas
- pano
- Elin
- elisabenh.eleff
- Audhild Høyen
- Alibaba
- Sinbad

### Kalender

**Uke for Desember 19 2011**

<table>
<thead>
<tr>
<th>Tid</th>
<th>Mandag</th>
<th>Torsdag</th>
<th>Onsdag</th>
<th>Torsdag</th>
<th>Fredag</th>
<th>Lørdag</th>
<th>Søndag</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00</td>
<td></td>
<td></td>
<td></td>
<td>14:20 bokning, sparring - Fre, 23 des</td>
<td>14:20 bokning, sparring - Lør, 34 des</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legg til
How tailored support through SMS works?
Tailoring makes interventions more effective

Photo by: Robert Sheie
Which alternative would you use?

• A: Physical activity can reduce the likelihood of getting sleep problems.

• B: Physical activity improves the quality of sleep.
Regulatory focus

Promotion

Prevention
Which alternative would you use?

Prevention
• A: Physical activity can reduce the likelihood of getting sleep problems.

Promotion
• B: Physical activity improves the quality of sleep.
Stage of change
Preparation

Self-Efficacy (action)

Social Support

Plan activity

SMS tailored to answers (max 1 per day)
What do you think that would be a challenge for you?

- It is difficult to convince the people around me that I really want to be more active
- To change my work habits
- ...
It is difficult to convince the people around me that I really want to be more active.

They say that the actions are more important than the words, can you impress someone around you by showing where it is nice to go for a tour?

Don’t worry if someone is negative towards your efforts to change your lifestyle. It is your health and your decision. Good luck!
To change my work habits

Training increases the work capacity, maybe you should prioritize the training commitments in the same way you do with important work meetings.

Do you have an elevator at your job? If you go 11 floors up with the stairs every day, in one year you will have climbed Himalaya.

Can you walk or cycle during your lunch break?

Can you walk or cycle to your work?
Do you have many friends or family members that are physically active?

- Many
- A couple
- None

To inform others about your planned activity, makes you more committed.

Do you have a friend you can invite for a tour? You can discuss so nice when you walk side by side.

Is there a tour group in your municipality?

Do you keep in contact with your new friends from the rehabilitation?

Did you write something on the discussion forum of ikkegideg.no?
Intervention timeline

- Cardiac Rehabilitation Program
  - Baseline
  - Post-discharge
  - 1 month
  - 3 months
  - 12 months

- Intervention
- Control

1 month
12 months
Control group

Intervention group

(the same with control group)
<table>
<thead>
<tr>
<th>Baseline variables</th>
<th>Tailored group, n=29</th>
<th>Control group, n=38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), mean</td>
<td>59.5 (56.3-62.8)</td>
<td>58.8 (55.8-61.7)</td>
</tr>
<tr>
<td>(95% CI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women, n (%)</td>
<td>7 (24)</td>
<td>8 (21)</td>
</tr>
<tr>
<td>BMI, mean (95% CI)</td>
<td>30.4 (28.8-32.0)</td>
<td>29.0 (27.3-30.4)</td>
</tr>
</tbody>
</table>

Antypas K, Wangberg SC
An Internet- and Mobile-Based Tailored Intervention to Enhance Maintenance of Physical Activity After Cardiac Rehabilitation: Short-Term Results of a Randomized Controlled Trial
J Med Internet Res 2014;16(3):e77
Tailored group had higher physical activity at 3 months.

(Antypas, Wangberg, JMIR 2014)
But high drop-out and small sample.

(Antypas, Wangberg, JMIR 2014)
Luckily there is a bigger picture

• mHealth VS usual care had better ability to reach exercise goals and less anxiety. Gandhi et al. CJC 2016

• mHealth has the potential to change lifestyle behaviour Pfaeffli Dale et al. EJPC 2016
Health behavior theories can create a solid foundation to support cardiac rehabilitation.

User involvement was useful, even stronger involvement would be better.

RCTs are challenging.

Women’s participation

Elderly and technological literacy
Thank you!

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