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Internet-based Physical Activity Coaching:

Making Healthy Choices Easy Choices: Low-Cost and Effective Lifestyle Coaching

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Background

- **Unhealthy daily choices** concerning food and physical activity **promote obesity, Type 2 diabetes and its complications** especially in those with increased genetic risk living in obesogenic environments.
- The **practice of medicine** should **extend beyond the medical office** to help patients adopt and sustain healthy behaviors.
- **Lifestyle coaching** for behavior change has been **proven effective** in the NIH's Diabetes Prevention Program and other studies.
- **Lifestyle coaching can help patients** sustain health-promoting behaviors.
- Labor intensive coaching approaches are **too costly to replicate**.
- **On-line behavior change approaches show promise.**

Characteristics of High Quality On-line Behavior Change Interventions

- Technology platform that enhances the capacity of patients and their support network, coaches, and quality assurance efforts
- Evidence-based protocols and curricula personalized for the patient, based on his/her characteristics, changing needs, and progress over time that engages patients in behavior change
- Integrates into clinical settings, quality assurance and information technology platforms
- Affordable and scalable to large numbers of patients

DPS Health Behavior Change Suite™

- On-line technology platform
- Supports roles of:
 - Patient
 - Coach
 - Quality Assurance
 - Patient Support Network
- Used as platform for PA Rx and other DPS interventions
 - Diabetes prevention for adults
 - Physical activity promotion for adolescents

Behavior Change Program Goals

- Increase **knowledge** and **skills**
- Increase **planning**
- Increase **monitoring** and **tracking**
- Identify and mitigate **personal barriers**
- Increase availability of **social connections**
- Improve **self-efficacy** and **confidence**
- **Adopt** and **sustain healthy behavior**

Conclusions

- This feasibility study suggests that an Internet-based personalized behavior change program designed to increase physical activity might be successful in increasing step counts and mitigating barriers in sedentary and overweight subjects.
- Internet-based coaching programs may be able to efficiently and effectively help healthcare providers deliver cost-effective diabetes prevention and treatment programs with less staff time or administrative burden.



DPS Health Physical Activity Prescription™ (PA Rx)

Physical Activity Prescription (study program)

- Telephone human coaching support provided by DPS
- On-line application
- Pedometer

Enhancements Post Study

- Streaming videos and revised content
- Office support (recruitment materials, individual and population reports, staff training, customer support)

Study Goal: To test the feasibility of using on-line coaching to help sedentary adults at risk for diabetes become more physically active.

Methods

- Recruit sedentary adults via the Internet and charge a \$9.99 participation fee
- Enroll subjects in intervention: telephone coaching and on-line PA Rx for three months
- Complete surveys and physical activity assessments at enrollment, 12 and 24 weeks post enrollment
- Provide inexpensive products as incentives for completing data collection

Characteristics of the Intervention

- User's on-line experience is personalized based on individual characteristics and performance.
- Users receive short telephone calls with a human coach at four days, two weeks, six weeks and ten weeks post enrollment, and if not meeting goals or not using the application.
- Users are prompted every week to set attainable physical activity goals and to plan physical activities with click and drag technology.
- Daily, the subject tracks activity using steps measured on a pedometer and calculations from activities not registered on the pedometer.
- Weekly, the user reviews prior week's activities and success in meeting personal goals; addresses barriers to achieving goals; and plans and commits to the next week's activities.
- Subjects can automatically share progress with others to get support.
- Software informs coach if patient isn't actively engaging the application or meeting personal goals.

Results

1. 33/66 never started or dropped out early; 10/66 completed < 7 weeks
2. 23/66 subjects completed the 12 weeks and are the subject of this analysis
3. Mean age 45.3 yrs, mean BMI 30.2 kg/m²
4. Average increase in daily activity points 61/week (calculated from trend line of users' self reports).
5. Users logged-on an average of 3.7 days/wk, were still logging on an average of 3.3 days a week by the tenth week and planned 11.9 physical activities/wk.
6. Users met or exceeded their weekly physical activity goals 35% of the time.
7. Of the 20 barriers available, the most common ones addressed in the weekly reviews were: no time; too tired; discouraged easily; no time at work; no rewards
8. Self-reported success in meeting the barrier chosen the prior week: 25% very successful, 44% somewhat successful and 31% not very successful
9. 79% strongly or somewhat agreed with "My general impression of the COACH is positive"
10. 67% strongly or somewhat agreed with "I'm confident that I could stick with this program"
11. 74% strongly or somewhat agreed with "I would recommend COACH to a friend if he or she needed it."