Promoting Health: Knowledge and Strategies for Developing Successful Health Programs

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Prescribing Physical Activity for Health

• **Frequency**
  – Most days of the week (ie. 5 days)

• **Intensity**
  – Moderate-intensity (50%-75% maximum heart rate)
  – MHR = 220-Age
  – Observable signs
    – Light perspiration, skin color, breathing rate

• **Time**
  – 30 minutes (can be accumulated - 15 + 15)

• **Type**
  – Aerobic activities (walking, cycling, movement to music)
Evidenced-based Strategies: Effects of a minimally supervised exercise program for mentally retarded adults (Pitetti & Tan, 1991)

- **Participants:** 12 PWID in supported work
- **Measures:** Peak oxygen uptake, cycle ergometer

- **Frequency:** Daily for 16 weeks
- **Intensity:** 50%-70% of peak aerobic score (moderate)
- **Time:** 12 mins progressing to 30 mins
- **Type:** Cycling on an exercise bike
- **Unique:** Minimally supervised @ worksite
  - Heart rate monitors
  - Specialised exercise bike
Effects of a minimally supervised exercise program for mentally retarded adults (Pitetti & Tan, 1991)

Significantly different (p<.05)
Evidenced-based Strategies: Effects of Aerobic Dance on the Cardiovascular Endurance of Adults with Intellectual Disabilities (Cluphf, O’Connor & Vanin, 2000).

- Participants: 15 PWID in Supported Work
- Measure: Rockport Fitness Walking Test
  Predict VO$_2$, time, distance walked (field test)
- Frequency: 3-days/week for 12 weeks
- Intensity: Moderate intensity
- Time: 12 mins progressing to 30 mins
- Type: Movement to music

- Unique: Worksite, token economy
Effects of Aerobic Dance on the Cardiovascular Endurance of Adults with Intellectual Disabilities (Cluphf, O'Connor & Vanin, 2000).

![Bar chart showing the average RFWT time for Exercise vs. No Exercise at Pre, 4, 8, 12, and Follow-up. The chart indicates significantly different values (p<.05) for the exercise group compared to the no exercise group at certain points.]
Active Experience

• What is moderate intensity physical activity?
  – What does it feel like?

• How can this be achieved?
  – Safety
    – Include people of varying ability

• What benefits are gained from engagement in regular moderate intensity physical activity?
  – Participants?
  – Staff?
Active for Life Project

- **Participants:** 11 PWID in Supported Work/Place
- **Measures:** Peak oxygen uptake, *work productivity*

- **Frequency:** 5-days/week for 12 weeks
  - 4 week Xmas break
  - 5-days/week for 16 weeks

- **Intensity:** 50%-70% of peak aerobic score (moderate)

- **Time:** 12 mins progressing to 30 mins

- **Type:** Cycling on an exercise bike

- **Unique:** Worksite
  - No heart rate monitors
  - Standard exercise bike
  - Token economy

Familiarisation & Training
Tracking Phenomena of Cardiovascular Fitness*

Female, 25 years

Low Risk to Degenerative Conditions

Moderate Risk to Degenerative Conditions

High Risk to Degenerative Conditions

Active for Life

Tracking Phenomena of Cardiovascular Fitness*

Female, 25 years

Oxygen Uptake

Start Exercise                Xmas Break     Re-start                  Finish

Low Risk to Degenerative Conditions

Moderate Risk to Degenerative Conditions

High Risk to Degenerative Conditions

Token Economy Support for Exercise Session Target

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<td>Up to 350 Kcals (Silver)</td>
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**Rewards:**
- Highlighter pen (1 Gold)
- Can of drink (1 Gold)
- Muffin/Mud Cake/Donut (1 Gold)
- Bookmark (2 Gold)
- Hot Chocolate (2 Gold)
- Block Chocolate with nuts (2 Gold)
- Novelty pen (2 Gold)
- Sport Socks (5 Gold)
- La Tan Cream (6 Gold)
- Book (8 Gold)
- Flowers (8 Gold)
- 2 Movie Tickets (12 Gold)
- Lunch with a friend (14 Gold)
- Picnic (15 Gold)
- BBQ (16 Gold)

3 Blue Stars = 1 Gold Star
2 Silver Stars = 1 Gold Star
Comparison of Fitness ($\text{Peak VO}_2$) for Participants by Training Group

![Graph showing comparison of fitness levels between training and no training groups at different stages: PreTrain, PreBreak, PostBreak, PostTrain. The graph indicates a significant improvement in peak VO2 post-training compared to no training. Repeated Measures ANOVA, significant $p < .05$.](image_url)
Active Recreation Project

Purpose

• Investigate the effect of a day centre physical activity program on health-related fitness of young adults with an intellectual disability

Key Features

• Evidenced-based
  – 30-minutes per day, most days of the week, moderate-intensity physical activity
  – Support from key workers

• Staff led and managed

• Low cost
  – Equipment, transport, staff

• Sustainable
  – Successful, weather resistant

• Transferable
  – Between staff & sites

Funded by VicHealth Promotion Foundation
Active Recreation Project

Management Engagement

• Create a Partnership
  – Existing relationship built on previous successful programs
    – Engaged staff
    – Successful, developing support from participants, staff and parents
    – Alignment with key public policy
      – Health promoting physical activity
      – Active support
      – Community inclusion
    – Management & Key Staff Support obtained

• Program Considerations
  – Daily 60 minute allocation on week planner, ~ 40 weeks (April – December)
  – Local champion seconded to project
    – On-site advocate, and role model
Active Recreation Project

Staff Training and Support

• 30 minute workshops embedded into existing bi-weekly 60-minute staff meetings

• Workshop topics included
  – Value
    – Adults with an Intellectual Disability & Staff,
      – Physical, psychological
    – Families
      – Psychological
  – Need
    – Health status of Adults with an Intellectual Disability – Local Evidence
  – What work’s: equipment based activities
    – Exercise bikes
    – Exercise bands and mats
  – What work’s: movement based activities
    – Active recreation (sports and active games)
    – Movement to Music
    – Walking
Measures

• Health-related focus
  – Heart, low-back pain, mental health

• Cardiovascular Fitness \((\text{ACSM, 1997})\)
  – Peak Oxygen Uptake

• Strength \((\text{ACSM, 1997})\)
  – Biceps Curl (Left & Right)
  – Bench Press
  – Seated Leg Press
  – 5-stage Curl-up

• Flexibility
  – Back Saver Sit & Reach (Left & Right)
  – Sit & Reach (Both)
Cardiovascular Fitness & Weight

Peak VO$_2$

- $t = 0.57$, $p = 0.25$

Weight

- $t = 0.32$, $p = 0.38$
Flexibility

Sit & Reach (Both)

\[ t = -2.61, \ p = 0.24 \]

Sit & Reach (Left & Right)

R: \[ t = -4.18, \ p < 0.01 \]

L: \[ t = -3.11, \ p = 0.01 \]
**Strength**

5-Stage Curl-up

\[ t = -2.23, \quad p = 0.04 \]

Bench Press

\[ t = -4.31, \quad p < 0.01 \]
Strength

**Biceps Curl**

R: \( t = -0.75, \ p = 0.24 \)
L: \( t = -2.62, \ p = 0.02 \)

**Seated Leg Press**

\( t = -1.51 \ p = 0.10 \)
Conclusion

• Successful implementation of program
  – Participant reports initially variable, but became positive
  – Enjoyment, social engagement, fitness, health
  – Staff reports positive
  – Job fulfilment, participants more ‘settled, happier’
  – Parent reports positive
  – Childs’ health, improved family engagement
  – Daily physical activity a policy addition
  – Maintained, survived several management changes!

• Significant changes
  – Flexibility (Both, Left & Right)
  – Strength (Left Biceps Curl, Bench Press, 5-stage Curl-up)

Funded by VicHealth Active Recreation Grant
Summary

- Partnership approach
  - Local champions (staff advocate)
- Adhere to the FITT principles (moderate intensity activities)
- Minimally supervised
- Long term outlook
- Low resource requirements
  - Low cost (staff, equipment, transport)
    - Brisk walking, exercise to music, exercise bike
- Sustainable
  - Successful, shared benefit,
  - Staff support for participants