Effects of a 30-day Fitness Challenge on Body Composition and Markers of Health in Women

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About Curves

- Established in 1992
- Women’s only fitness & weight loss program
- Largest fitness franchise in the world
- Fastest growing franchise in history
- Over 10,000 clubs in 73 countries
- 4 - 5 million members
Curves Training Program

• 30-minute circuit training program (3 / week) with stretching before and after exercise
• Resistance exercises included:
  – Leg extension/curls
  – Shoulder Press/Lat Pull
  – Leg Press
  – Seated bench press/rows
  – Hip Adduction/Abduction
  – Abdominal Curl/Back Extension
  – Squat
  – Arm curls/extensions
  – Stair Stepper / HR (2)

Curves Training Program

• Calisthenic exercises included low impact:
  – Jogging in place
  – Jumping jacks
  – Boxing
  – Knee lifts
  – Kicks forward
  – Side kicks
  – Skiing
  – Heel kicks
  – Skipping
  – Torso twists
Exercise Intensity

- Heart Rate Analysis (n=80)
  - Mean HR - 119±15 bpm
  - 79% max HR
  - 63% of HRR
- Biomechanical Analysis (n=10)
  - 61% - 73% of 1RM
  - Reliability (r=0.71 to r=0.87)
- Metabolic Analysis (n=12)
  - 63% VO₂ max
  - RER of 0.98
  - Reliability (r=0.84)
- Energy Expenditure (n=675)
  - 10 workouts, 7 Clubs - CurvesSmart
  - 310±91 kcals
- Exercise intensity meets ACSM & NSCA guidelines

Curves Women’s Health & Fitness Initiative

Identify ways to optimize the health and well-being of women through various diet, exercise, and/or nutritional interventions

curves.tamu.edu
Curves Women’s Health & Fitness Initiative

- Completed Studies
  - Curves I
  - Curves II
  - Curves Extension
  - Curves Biomechanics
  - Curves Exercise Intensity
  - Curves Calcium
  - Curves Special Populations (hypertension, diabetes, thyroid conditions, etc)
  - Curves Elderly
  - Curves Osteoarthritis
  - Curves Resistance Training (new equipment comparison)
  - Curves in Middle Schools (2 studies)
  - Curves Metabolism
  - Curves Fit “Highly Trained Subjects”
  - Curves/General Mills

- Data presented at FASEB, ACSM, NSCA, & ISSN (see http://curves.tamu.edu)
- Curves I published in Nutrition & Metabolism (6/1/23, 2009)

Purpose of Study

- Are results observed in controlled clinical trials replicable in field?
- What is the impact of initiating a national fitness program for Curves Members?
- Begin developing an online system to monitor the long-term impact of participation in the Curves program on women’s health
- Beta-test development of an accessible data-base for women’s health research
Met with Curves and university research and IT personnel
Obtained IRB approval to implement online data collection research
Began developing web-based data collection and monitoring system
Decided to launch 30-day fitness challenge for Curves members in U.S. and Canada as first online effort in collaboration with AVON
National advertisement about study through Curves/AVON
Interested participants invited to pick up study card voucher at local Curves club for online registration
Dear PARTICIPANT,

Thank you for participating in the Curves/AVON Fitness Study! We are excited you are a part of this research project. Currently, Curves is the most researched fitness and weight-loss program worldwide. Preliminary results from research conducted at the Exercise and Sport Nutrition Laboratory at Baylor University have proven the effectiveness of our program showing weight loss, improvement in markers of health such as blood pressure and body mass index (BMI), and increases in fitness levels.

Write much of our past research has been collected in a laboratory setting, the Curves/AVON Fitness Study is designed to measure the impact of the Curves program model of the club. This study has several purposes:

1. To quantify the physiological and psychological benefits of regular exercise and weight management.
2. To examine the factors keeping women from regular exercise.
3. To analyze adherence to regular exercise and weight management after a 30 day exercise and weight management program. Data will be collected through a Pre-Study Fitness Assessment and Post Study Weight and Measure at your local club. You will also be asked to complete a Pre and Post Study Assessment on this website. Information collected includes body measurements, age, weight, and activity levels.

All data collected will be analyzed and results will be published at the completion of the study.

Again, thank you for your participation. Should you have any further questions, please contact the owner of the club you are participating at.

We look forward seeing the results of this study!

Sincerely,

Caissie Findlay
Vice President of Continuing Education and Research
Registration

This site is solely for participants of the Curves Avon Fitness Study. To register, you will need a club code from your participation voucher. If you do not have this information, please contact the Curves location where you are registered for the study. If you are not a participant and are interested in learning more information, please contact your local Curves. Click here to find a Curves location near you.

Register with us

- Email Address:* 
- Create Password:* 
- Password Again:* 
- Club code from voucher:* 

Where did you hear about the Curves Avon Fitness Study?
- Avon catalog
- Newspaper
- Flyer
- Postcard
- Online

- I am interested in receiving information and/or offers from Curves.
- I am an Avon representative.

* Required Field

Submit

Thank you for registering for the 2009 Curves Avon Fitness Study.

Click Here to Begin
* Trained club personnel performed measurements
* Data recorded on study card
* Subjects entered baseline data
* Omron HBF-306 hand-held BIA analyzer used to assess body fat (validated to DEXA)
- Encouraged to see physician for pre- and post-blood work
- HR & BP measured at club using automated analyzers
- Membership / Adherence Questionnaire

If known, within the last 3 months:

<table>
<thead>
<tr>
<th>Total Cholesterol</th>
<th>mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose Levels</td>
<td>mg/dL</td>
</tr>
<tr>
<td>Pre-Workout HR</td>
<td>bpm</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>mmHg</td>
</tr>
</tbody>
</table>

Please answer YES or NO to the following questions:

I am a non-exerciser.*

I am currently a member at Curves.*
If Yes, how long have you been a Curves member?*
I exercise at Curves 3+ times per week.*
I currently exercise at a gym other than Curves.*
If Yes, how long have you been exercising at another gym?*
I currently utilize the Curves Complete website.*
I have previously participated in a Curves Fitness & Weight Management Class.*
I have previously participated in a weight management class.*
How long did you participate?
What program did you participate in?*
Are you currently participating?*

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Exercise History / Comfort Questionnaire

Exercise Barrier Questionnaire

Check the boxes below that describe your involvement at Curves (Check all that apply).*

- This is my first time at Curves.
- I have never heard of Curves before now.
- I have heard of Curves, but have not attended
- I have attended Curves in the past, but not at this facility.
- I exercise at the Curves location 3 or more times per week.
- I am a member at Curves, but have not exercised for more than 3 months.
- I feel welcome at Curves.
- I am involved in club activities/contests/promotions.

Check the boxes below that describe what may prevent you from regular exercise (Check all that apply).*

- No time / Inconvenient
- Gym membership too expensive
- Too tired
- Exercise is boring / unimportant
- Don’t need to lose weight
- Physical disability
- I need to ask husband/significant other
- Unsure how to start
- Embarrassed / Uncomfortable
- Exercise enough already
- I need to try it / Think about it
- Other
### Food Frequency Questionnaire

- Foods high in calcium (such as dairy products or calcium supplement)
  - If checked, [ ] times per week.
- Foods high in sugar (such as pies, cakes, cookies, candy, etc.)
  - If checked, [ ] times per week.
- Foods high in fiber (such as fruits or vegetables, whole grain breads or cereals, dried peas or beans, etc.)
  - If checked, [ ] times per week.
- Foods high in fat (such as chips, fried foods, red meats, cheese made from cream or whole milk, egg yolks, etc.)
  - If checked, [ ] times per week.
- Alcoholic beverages (12 oz bottle or can of beer, 5 oz glass of wine, 12 oz wine cooler, shot of liquor)
  - If checked, [ ] drinks per week.
  - [ ] times per month or more alcoholic beverages consumed.

### Alcohol Frequency Questionnaire

### Physical Activity Questionnaire

- Physical activity (30 Minutes without stopping, hard enough to make you breathe more heavily)
  - If checked, [ ] times per week.
- Vigorous Activity (Examples: bicycling, brisk walking, jogging, basketball, swimming, or other aerobic activities)
  - If checked, [ ] times per week.
- Stretch Muscle in order to gain flexibility.
  - If checked, [ ] times per week.
- Curves 30 Minute Workout
  - If checked, [ ] times per week.
- Light Activities (Examples: bowling, softball, golf, slow walking, yard work, or other non-aerobic activities)
  - If checked, [ ] times per week.
- Strength Train Activity (such as weight lifting)
  - If checked, [ ] times per week.
Medical / Family History

- Alcoholism
- Endometrial/Ovarian Cancer
- Intestinal Polyp
- High Blood Pressure
- Diabetes
- Stroke
- Glaucoma
- Heart Attack before age 60
- Other (Please Specify Below)

* Required Field

Submit

Participation incentive

Thank you for your pre-assessment information has been received.

Free Gift from Curves and Avon.

Make sure to come back at the end of the study to submit your post-assessment information so that you get your free gift.

Complete Your Registration
Methods

- Required to exercise a minimum of 3-days per week
- Optional Diet (6-Week Solution)
  - 1,200 kcals/d for 1 wk
  - 1,600 kcals/d for 3 wk
  - Higher CHO [45% CHO, 30% PRO, 25% F] diet
  - Higher PRO [45% PRO, 30% CHO, and 25% F] diet.
- Post-test assessments obtained by club personnel and recorded on study card
- Subjects entered post-study data

- Pre- and post results shown
- Subjects given option to receive e-mail about overall results
- Instructions on how to claim gift
Participants (43,764)

- 44.5±14 yrs
- 82.6±20 kg
- 164±7 cm
- 31.1 BMI
- 37.7±7 % body fat (BIA)
- 42 / 37 / 44 in
- 76±11 bpm (19,765)
- 123±17/79±10 BP (20,675)
- 196±42 mg/dl CHL (3,549)
- 102±27 mg/dl Glucose (2,039)

Methods

- Post-study data collected from 1,370 clubs and 20,182 participants through mainframe computer and exported into an Excel spreadsheet
- Data analyzed using SPSS 16.0 using dependent t-tests and Pearson correlations
- 14% of subjects reported following the diet
30-Day Fitness Challenge

- Weight loss correlated with:
  - exercise adherence (-0.032; p=0.000)
  - diet adherence (-0.193; p=0.000)
  - Curves Complete online tracking (-0.016; p=0.027)

All data significant (p<0.003)
30-Day Fitness Challenge

<table>
<thead>
<tr>
<th>Attitudes about Exercise</th>
<th>Impact of Curves Pre / Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise - Unsure</td>
<td>12.7% / 1.5%</td>
</tr>
<tr>
<td>Exercise – Uncomfortable</td>
<td>19.7% / 3.9%</td>
</tr>
<tr>
<td>Exercise – Too Tired</td>
<td>36.4% / 15.5%</td>
</tr>
<tr>
<td>Exercise – Too Boring</td>
<td>8.9% / 2.7%</td>
</tr>
<tr>
<td>No Need to Lose</td>
<td>1.7% / 0.6%</td>
</tr>
<tr>
<td>Exercise – Disability</td>
<td>4.0% / 2.4%</td>
</tr>
</tbody>
</table>

Significant improvements in body composition, markers of health, and positive health behaviors can be achieved through short-term national fitness initiatives

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13,420 New Members!
esnl.tamu.edu