

Dietary Supplements Marketed for Weight Loss

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- "If you are serious about losing the love handles, shifting the fat from your belly, and getting that defined look everyone else will notice....."

We have seen the claims...

- Boost your metabolism!
- Kill your appetite!
- Eat as much as you want and still lose weight!
- Lose weight while you sleep!

...and so have our patients!

Miracle workers



- Fat Burner
- Fat Blocker
- Starch Blocker
- Energy Booster
- Appetite Killer
- Water Eliminator
- Mood Enhancer

Supplement Users

At any given time 70 million Americans are trying to lose weight or prevent weight gain...

- Well-educated adult females in higher socioeconomic status.
- Trend expanding to include diverse ages, ethnicities, and education.

Reasons for Use

- Desire for 'magic bullet'
- Easier than lifestyle changes such as diet and exercise
- Frustration with previous attempts and failures at weight loss
- Available without a prescription and widely accessible (store or internet)
- Appeal of 'natural' remedy; natural = safe

Saper RB, Eisenberg DM, Phillips RS. Common dietary supplements for weight loss. *Am Fam Physician* 2004;70:1731-1738 & CDC 2004.

Sources of Information

- Family & friends (51%)
- Product labels (41%)
- Magazines (43%)
- Doctors (28%)
- Health food store (28%)
- CAM practitioner (19%)
- Friends & relatives (41%)
- Doctors (15%)
- Pharmacists (10%)
- Magazines (9%)
- TV (9%)
- Newspaper (8%)
- Radio (4%)
- Books & other (4%)

Prevention magazine survey reported in *Herbalgram* 48, 2000

Survey of low income population reported in *Family Medicine* April 2000

What do we believe?

- "Ads for billions of \$ in diet products often contain false, misleading, and exaggerated claims" (FTC report 2002)
- Much about what is written regarding dietary supplements is by those who sell them.
- Too good to be true...?

Supplement Sales

- Dietary Supplement market is estimated at \$19.8 Billion
(NBJ Annual Industry Overview May/June 2004)
- > 30% of nutrition industry as a whole
- Weight Loss Supplements ~ \$2 Billion in retail sales
- Positive growth trends (2005)
 - Direct sales, network marketing (MLM)



Accessibility

- OTC
- Internet boosts access
- Can be anonymous
- 1994 Dietary Supplement Act: exempted products from FDA regulation
- Easy access = concerns over safety

DSHEA

Dietary Supplement Health and Education Act, 1994.

- Amended 1958 FD&C act
- Defined 'dietary supplement'
- Set guidelines on labeling and marketing
- Established the Office on Dietary Supplements

<http://www.cfsan.fda.gov/~dms/dletsupp.html>

Trends: OTC wt loss aids

- 1991: 5% female, 2% male
- 1998: 33% female, 10% male

JAMA 2001

FDA

- Harris Poll (2002) interviewed 1010 adults
 - Manufacturer cannot make safety claims w/o scientific support: 55%
 - Supplement must be approved by the gov't prior to sale: 59%
 - Gov't requires warning labels for side effects / dangers: 68%
- FDA supplement division
 - 60 people & \$10 million budget for \$20 billion industry

Concerns with Safety

"nothing is so firmly believed as that which is least known"

- "Natural" Medicine?
 - Arsenic is natural – the dose determines the action
- Limited scientific testing
- Sold without knowledge of action
- Amounts of substance in products vary
- Unscrupulous manufacturers
- 'More is better' mentality



Herbal Supplements

- Many herbs currently used in weight-loss products have a long tradition of use for a variety of ailments.
- Traditional use = teas, decoctions
- Current use = concentrated pill form (“more is better”)
- One of the major differences between traditional use and modern application is how the herbs are formulated and processed.

Concerns with Herbals

- Do you know that what is stated on the label is actually in the bottle?
- Can you identify the active ingredient?
- How do you know the plant has been properly identified?
- What about contamination – heavy metals or pesticides?





Marketing the Supplement

- Read the label
- May include structure-function claims but not health claims

Caffeine

- Naturally occurring xanthine derivative
- CNS & respiratory stimulant
 - Increase O₂ consumption, metabolic rate
- May be mixed with synephrine

Espresso=350mg
Coffee=115mg
Tea=50mg
Soft drinks= 40-55mg



Herbal Diuretics

- Herbs that contain caffeine
 - Yerba mate, green tea extract, guarana, dandelion, bucho, kola nut, uva ursi, damiana, juniper and many others
- Fluid & possible electrolyte loss, not fat loss
- Not part of a weight loss strategy

Herbal (stimulant) Laxatives

- Yerba mate
 - Stimulant (caffeine)
 - Diuretic (caffeine)
 - Laxative
- Senna (OTC drug)
- Cascara (OTC drug)
- Aloe
- “Dieters Tea”
- “Trim Tea”
- “Slim Tea”
- Excessive amounts may cause diarrhea, vomiting, nausea, stomach cramping, fainting, even death.

Adaptogenic Herbs

- Adaptogen
 - Agents, usually from plants, that help or adapt the body or protect it from stress.
 - Also called ‘tonics’ to help increase the body’s resistance to physical and mental stress.
- Ginseng
- Ashwagandha (*Withania somnifera*)
- Suma (*Pfafia paniculata*)
- Schisandra (*Schisandra chinensis*)
- Astragalus (huang chi)
- *Rhodiola rosea*/*Rhodiola crenulata* root (aka Artic root, golden root or crenulin)

Others

- **B-vitamins** – no published research for wt loss
- **Calcium** – intake inversely assoc with BMI; more research needed
- **CLA** (Conjugated Linoleic Acid) – may reduce fat and help prevent regain of fat; may reduce leptin
- **Carnitine** – limited research; may work at fatty acid metabolism
- **Chromium** – short term research; may work with insulin
- **5-HTP** (hydroxy-tryptophan) – may work on serotonin to reduce CHO craving / appetite
- **Pyruvate** – may reduce appetite by anti-depressive effect

So, should we use dietary supplements ...??



- | Yea | Nay |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • “Natural” medicines. • Many therapies used for centuries. • May reduce need for drug tx and associated side effects <i>when used properly</i>. • Other countries have been prescribing hers safely for years. | <ul style="list-style-type: none"> • “Natural” medicines. • Limited scientific testing. • Sold without knowledge of action. • Active ingredient concentrations vary. • May displace / enhance / interfere with current tx. • Quality control <ul style="list-style-type: none"> – No federal regulation prior to sale – May be subject to contamination, mis-identification. |

Role for Healthcare Providers -- Be Prepared --

- Be familiar with popular OTC dietary supplements
 - Listserves
 - Email newsletters from websites
 - Local healthfood store or large supermarket
- Keep a database
 - Online resources
 - PDA databases
 - Notebook of monographs
- Evaluate research
 - Study design, methods, analyses, conclusions

Encourage an Open Dialogue -- Questions to Ask --

- Practitioner should ask about patients' use of dietary supplements
- Remain non-judgmental to encourage open dialogue
- Explore the reasons for interest in the product
- Discuss the 'Who', 'What', 'Where', 'When', 'Why', 'How' questions

Encourage an Open Dialogue -- 'What', 'When', 'Why', 'Who', 'Where', 'How' --

- **What** are you taking?; **What** dose?
 - Determine how much of a supplement
 - Determine if patient knows dose
- **Why** did you start taking it?; **Why** are you interested in taking it?
- **When** did you start taking it? **When** in the day do you take it?
- **Who** / **Where** did you get your recommendation / information?
- **How** is it working?

Encourage an Open Dialogue

-- Ask, Evaluate, Educate, Document, Communicate --

- Understand claim & FDA role in dietary supplements.
- Evaluate quality of marketing claim(s)
 - Claims too good to be true?
 - Make claims without real evidence?
 - Rapid wt loss and safety – antagonistic goals...
- Discuss known and potential risks; look for available evidence.
- Evaluate whether taking the product is worth any potential benefit.
 - Use and evidence based approach.
 - Is there strong evidence for quality, safety, and efficacy?
 - Consider cost.

Responsible Use

-- Ask, Evaluate, Educate, Document, Communicate --

You have weighed the evidence; you or your patient chooses to try a dietary supplement:

- Buy from well-known, reputable manufacturers
- Look for independent analysis of quality
 - Consumerlab
 - NSF International
 - US Pharmacopia
- Set time frame to evaluate efficacy
- Report adverse effects
- Follow-up regularly
- Document
- Communicate to entire healthcare team

Certification Programs

Independent analysis of quality
– may earn quality seal –

- www.NNFA.org
- www.nsf.org
- www.usp.org
- www.consumerlab.com

Resources

- www.herbdaily.org
- www.herbalgram.org
- www.consumerlab.com
- www.supplementwatch.com
- www.quackwatch.com
- www.complementarynutrition.org
- Office of Dietary Supplements <http://ods.od.nih.gov>
- Natural Medicines Comprehensive Database
www.naturaldatabase.com
- Health professionals can report adverse effects to: 1-800/FDA-1088 or www.fda.gov/medwatch
