Understanding and Managing Diabetes: A Psychology Perspective

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Psychology and Diabetes

- Two themes:
  - Primary prevention of type 2 diabetes
  - Adherence to therapy
Primary Prevention; The Context

- Diabetes; there is a lot of it and it is increasing at epidemic rates

- A lot of people at risk for developing the disease
Diabetes in U.S. – Tip of the Iceberg

*Diabetes* –
- 24 million Americans

*IGT & IFG:*
- 65 million Americans (30% of all adults)
- Progression to diabetes 5 – 15% per year
Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958-2008

Why is this happening?
And what does psychology tell us?
The Epidemic of Diabetes

“But wait a bit,” the Oysters cried,

“Before we have our chat;

For some of us are out of breath,

And all of us are fat!”

Lewis Carroll, *The Walrus and the Carpenter*
Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

Obesity (BMI ≥30 kg/m²)

1994

- No Data
- <14.0%
- 14.0-17.9%
- 18.0-21.9%
- 22.0-25.9%
- >26.0%

2000

- No Data
- <4.5%
- 4.5-5.9%
- 6.0-7.4%
- 7.5-8.9%
- ≥9.0%

2008

- No Data
- <14.0%
- 14.0-17.9%
- 18.0-21.9%
- 22.0-25.9%
- ≥26.0%

Diabetes

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OK, Given this clearly established relationship, why doesn’t everyone simply lose weight?
A Shift in our Collective Psychology

How we think about what is normal and healthy.....
YOUR FAVORITE FAST FOOD RESTAURANT

Easy & Faster Food Delivery

Burger King®
Marrybrown.
A&W
KFC
McDonald's®
DEEP FRIED BUTTER

New Item!

DEEP FRIED BUTTER

MINI-DONUTS

DEEP FRIED BROWNIES

PEPSI

SUPER CORN DOGS

FRESH SQUEEZED ORANGEADE SHAKE-UPS

DEEP FRIED BUTTER
The Heart Attack Grill; Appealing to multiple senses.....
It is now considered normal to eat meals in our car and reduce physical activity.

Is it “normal” to be overweight?
When obese people try to lose weight, what is their psychology?
Patients’ Expectations and Evaluations of Obesity Treatment and Outcome

- **Study design**
  - 60 obese women, age $40 \pm 8.7$ yrs.
  - BMI $36.3 \pm 4.3$ kg/m$^2$

- **Subjects questioned about their “goal” weight**
  - Dream weight
  - Happy weight
  - Acceptable weight
  - Disappointed weight

### Subjects Perceptions of Goals

<table>
<thead>
<tr>
<th>Defined Weights</th>
<th>% Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dream</td>
<td>38%</td>
</tr>
<tr>
<td>Happy</td>
<td>31%</td>
</tr>
<tr>
<td>Acceptable</td>
<td>25%</td>
</tr>
<tr>
<td>Disappointed</td>
<td>17%</td>
</tr>
</tbody>
</table>

Percent Achieving Defined Weight at Week 48 (n=45)

- Dream = 0%
- Did not Reach Weight 47%
- Disappointed 20%
- Acceptable 24%
- Happy 9%

Weight loss: 16.3 ± 7.2 kg

What is the Reality of Weight Loss that Contributes to Diabetes Risk Reduction?

5-7%
The Role of Psychology in Diabetes Prevention

- Prevention is about lifestyle and lifestyle modification
- We need to develop therapeutic approaches that address
  - What we consider normal
  - The way we perceive healthy behaviors
  - How we think about what is satisfactory levels of change
- Psychology can help with understanding our acceptance of risk reducing behaviors and long term maintenance of lifestyle change
  - Theory of reasoned action
  - Self efficacy theory
  - Social cognitive theory
  - Learned helplessness
Psychology and the Treatment of Diabetes

- Medication adherence:
  - Many persons with diabetes are not following therapy as prescribed
Only 1 in 3 patients adherent to preventive therapy after 6 months

N = 8406 managed-care enrollees receiving antihypertensive and lipid-lowering medications

A Systematic Review of Adherence With Medications for Diabetes

Joyce A. Cramer

OBJECTIVE — The purpose of this study was to determine the extent to which patients omit
Insulin adherence among patients with type 2 diabetes was 62-64%
Why is this?

What do our patients tell us?
Insulin Therapy Obstacles

1. Injection-related anxiety
2. Perceived lack of control
3. Low self-efficacy
4. A sense of personal failure
5. Positive gain is not expected
6. Perceived worsening of the disease process
7. Insulin will cause me to die
Insulin Therapy Obstacles

1. Injection-related anxiety
   • Discomfort with injections
   • Needle phobia
Insulin Therapy Obstacles

2. Perceived lack of control
   • “If I start taking insulin, I’ll never be able to stop.”
   • “Insulin means no more spontaneity. It would restrict my life, making it too hard to travel, eat out, or even have a life!”
Insulin Therapy Obstacles

3. Low self-efficacy
   - “I’m just not confident I could handle the demands of insulin, like deciding how much to take and when to take it.”
   - “It’s just too complicated; it’s too much for me to do.”
4. A sense of personal failure
   • “If I take insulin, it means I have failed, that I haven’t done a good enough job taking care of my diabetes.”

   • I have let my family/provider down

   • In the DAWN study, US patients reported more self-blame than patients from all other countries.

Peyrot et al, 2005
Insulin Therapy Obstacles

5. Positive gain is not expected
   • In DAWN, < 10% of insulin-naive type 2 subjects believed IT would lead to better glycemic control, less fatigue or better health

Skovlund et al, 2003
Insulin Therapy Obstacles

6. Perceived worsening of the disease process
   • “Taking insulin means my diabetes will become a more serious disease.”
   • “Taking insulin may cause other problems, like frequent low blood sugars, weight gain, or maybe even cause more serious problems with my eyes or kidneys.”
Insulin Therapy Obstacles

7. Insulin will cause me to die
   • Assumption born on exposure to others that have used insulin as a last resort
   • Higher correlation with co-morbid conditions
   • Lack of understanding about natural course of type 2 diabetes
Why Would Patients Feel This Way?

- Personal experience (e.g. hypoglycemia)
- Observation of others with diabetes
- Incorrect beliefs
- Overt and covert messages from health care providers
Physician Influences

• Threatening patients with insulin
  - “If you can’t make some positive changes in how you eat and exercise, then we’ll have no choice but to start insulin.”

• Underlying messages
  - Insulin should be avoided at all costs
  - You have failed
  - You are to be punished
Diabetes Therapy

- Diabetes therapy is a negative reinforcement paradigm:
  - You do various aspects of therapy to avoid the onset of a punisher
  - Hard for many to see positive or reinforcing aspects of risk reducing behaviors when measured against potency of competing reinforcers;
  - Cake now versus complications 20 years later
What can Psychology do for us?

- Better understanding of factors that lead to
  - Concerns and anxiety
  - Behavioral choices
  - Responses to therapy

- Suggest cognitive therapeutic approaches to address concerns
Thank You!