

Models of Behaviour Change: Health behaviour theories and models

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Outline

- Why do people seek medical care?
- Predicting health behaviour
- Defining "Theory"
- Individual health behaviour theories and models:
 - Health Belief Model (Hochbaum et al)
 - Stages of Change / Transtheoretical Model (Prochaska & DiClemente)
 - Motivational Interviewing
 - Theory of Reasoned Action (Ajzen & Fishbein, 1980)
 - Theory of Planned Behaviour (Ajzen, 1985)
 - Social-Cognitive Theory (Self-Regulation, Bandura)
 - Self-Efficacy/Social Cognitive Theory (Bandura, 1988)

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Seeking medical care

- When do we visit the doctor?
- What symptoms are most likely to be perceived as requiring the care of a medical practitioner?
- How do we communicate to the GP / medical practitioner why we think our symptoms require medical attention?

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Types of symptoms that prompt seeking of medical care

- New, unexpected symptoms
- Painful symptoms
- Affects highly valued parts of the body (face, eyes, heart)
- Interferes with job, athletic abilities, essential ADLs
- Perception of symptoms
- Interpretation of symptoms

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Perception of symptoms

- Subjective differences in perception of internal states
- Role of stress
- Mood
- Situational (appropriate)
- Age
- Coping ability

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Interpreting symptoms

- Prior experience with symptom
- Common Vs. rare symptoms
- Cultural differences
- Learning (parental influence)
- Lay referral system (friends, family, word of mouth)

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Major Variables in Behaviour Change

What measurable factors affect health behaviour?

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Major Variables in Behaviour Change

Individual thoughts and ideas have a significant influence on health behaviours. These variables interact with social and environmental factors and in turn influence behaviour.

- **Knowledge:** An intellectual acquaintance with facts, truth, or principles gained by sight, experience, or report.
- **Skills:** The ability to do something well, arising from talent, training, or practice.
- **Belief:** Acceptance of or confidence in an alleged fact or body of facts as true or right without positive knowledge or proof; a perceived truth.
- **Attitude:** Manner, disposition, feeling, or position toward a person or thing.
- **Values:** Ideas, ideals, customs that arouse an emotional response for or against them.
- **Access**

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Understanding and predicting health behaviour

- Health model and theories:
 - Generate research
 - Organise & explain observations (research & clinical)
 - Guide predicting behaviour
- All models describe processes or variables leading to **INTENTIONAL** changes toward healthy behaviours:
 - Health Belief Model (Hochbaum et al)
 - Transtheoretical Model (Prochaska & DiClemente)
 - Theory of Reasoned Action (Ajzen)
 - Social-Cognitive Theory (Self-Regulation, Bandura)

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Well studied determinants

1. Characteristics of symptoms
 - Painful?
 - Disabling?
 - Visible?
2. Perceived Cost/Benefit of seeking help
 - time, money, pain,
3. Perceived Severity of condition
4. Person's intention to behave & self-efficacy
5. Readiness to change
6. Social & demographic characteristics

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What is a "theory"?

"Set of interrelated concepts, definitions, and propositions that presents a *systematic view* of events or situations by *specifying relations* among the variables in order *to explain and predict* the events of the situations"

Glanz, Lewis & Rimer (1997)

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What is a "theory"?

- A theory therefore, like a philosophy, helps health practitioners:
 - Provide framework for practice
 - Answer "why," "what," and "how" questions



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Why use theory?

- Guides the search for **WHY** people do what they do.
- Helps identify **WHAT** needs to be known or measured.
- Provides insight about **HOW** to shape strategies.



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Health Psychology theories

- Focus on behaviour change or planning /implementation
- Try to explain human behaviours considering different levels:
 - Individual (*intrapersonal*)
 - *Interpersonal*
 - Community
 - Cultural

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Some useful concepts taken from Psychology

- Trait
- Gestalt
- Causal attribution
- Locus of control
- Stimulus / Response
- Cognitive factors
- Psychosocial factors

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Health Belief Model

(Hochbaum, Rosenstock, Kegels & 1958)

- Developed in the 1950's to help understand why more people did not take advantage of an immunisation program offered by U.S. Government. (Rosenstock, 1990)
- Developed to encourage behaviors that prevent unwanted negative conditions
- Focus on preventative health behavior
- Most widely recognized conceptual framework for health behavior
- Most common individual-level theory
- Looks at short- and long-term behaviours

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Principle consideration

Health actions are motivated by:

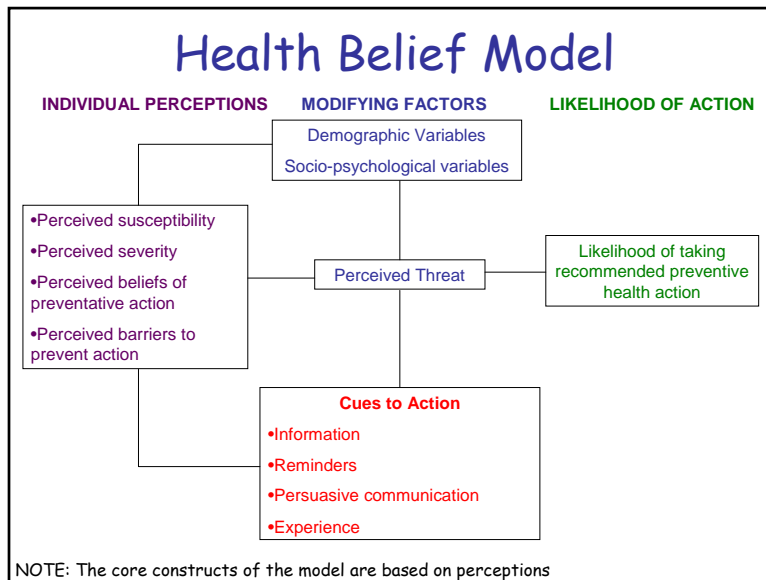
- Individual must perceive a threat, and have sense of personal vulnerability
- Disease will have at least moderate severity on some component of life
- Appraisal of recommended action(s)
- Action will reduce severity or susceptibility
 - Belief that benefits > obstacles

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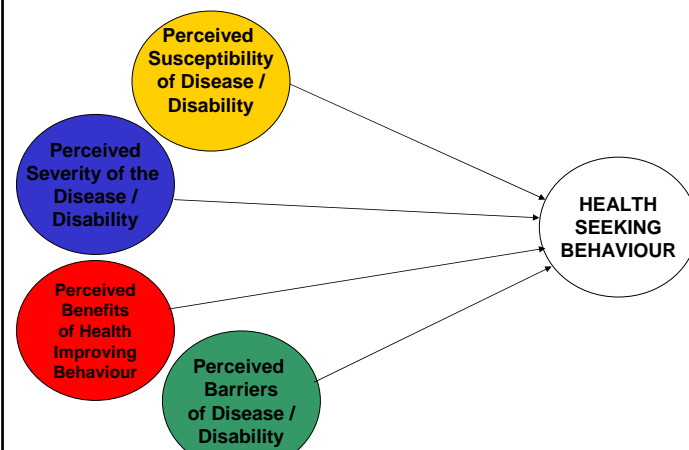
Key components of Health Belief Model

- Perceptions:
 - Susceptibility
 - Severity
 - Benefits
 - Barriers
- Cues to action
- Self-efficacy

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Individual Perceptions in Health Belief Model





Perceptions / beliefs

- The perception categories of beliefs have been shown to be strong determinants of whether or not people will adopt preventive behaviours.
 - Previous experiences, personality and mood impact our beliefs because they are based partly on emotion.
 - Mediators such as peer pressure and reinforcement also influence our behaviours

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Key components of Health Belief Model

- **Perceived Susceptibility:** What are the chances of getting condition?
 - This is "how vulnerable" do I feel related to a specific health problem?
 - Nature and intensity of perceptions affect willingness to take preventive action.

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Key components of Health Belief Model

Perceived Susceptibility

- People's perception of their vulnerability may not match their true risk. Smokers may feel protected from lung cancer and not personally feel at risk for the disease. In reality, smokers have a significantly higher risk of developing the disease than non-smokers. The Health Belief Model has helped confirm that the more susceptible individuals feel about a health condition, the more likely they are to take protective action.
- Example: Elderly who perceive they will get the flu from frequent exposure will be given the anti-bodies.

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Key components of Health Belief Model

- **Perceived Severity:** How serious are condition and consequences?
 - Perceived seriousness relates to one's view of the severity of the condition if they do not practice the preventive behaviour, e.g. Seriousness of hepatitis encourages individuals to get the hepatitis vaccine.
 - People are more likely to practice health promotion if they are concerned about a serious disease consequence if they don't.

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Key components of Health Belief Model

- **Perceived Benefits:** How well will advised actions reduce risks?
 - This is related to "how will I benefit if I take the recommended course of action"?
 - Anticipated value of the recommended course of action.
 - Must believe recommended health action will do good if they are to comply.

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Key components of Health Belief Model

Perceived Benefits

- Individuals must feel that the recommended behaviour will be successful in protecting them from the health problem of concern.
- They must have confidence in the behaviour, the vaccine, or the screening procedure in order for them to undertake the practice.
- The perception of a positive benefit is very important for the public to want to adopt a preventive action.
- Example: Confidence in the efficacy of the flu vaccine should increase the likelihood of seeking the vaccine.

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Key components of Health Belief Model

- **Perceived Barriers:** What are the tangible or intangible costs?
 - Perception of negative consequences
 - Greatest predictive value of whether behaviour will be practiced
 - The perception of any negative consequences of taking a preventive action is represented under perceived barriers. These could be in the form of high cost, taking too much time, transportation issues, childcare issues, or being painful.

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Key components of Health Belief Model

Perceived Barriers

- Experts report that practicing safe sex represents a host of barriers, particularly to adolescents, that must be addressed for more successful adherence to recommendations.
- Of all the four categories of the model, perceived barriers have the greatest predictive value of whether or not people will practice the behaviour.
 - i.e. if people see strong reasons for their not following preventive action, it is very likely that they will not take action. This is important information for health promotion program developers!

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Key components of Health Belief Model

- **Cues to Action:** What motivates you?
 - Factors that may mediate or motivate behaviour have been added to the model in recent years.
 - Recognised that demographic and psychosocial factors as well as information and experience also affect the likelihood of taking a preventive action

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Key components of Health Belief Model

- **Self-Efficacy:** How confident are you to take action?

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Other non-model variables may influence perceptions

- Demographic
- Political
- Social

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Evidence for HBM

- Mixed evidence, but some impressive results
 - Mammography
 - Champion- manipulated perceived susceptibility
 - increased rate 4x
 - others have manipulated perceived barriers and benefits to increase attendance
 - Also used in safe-sex, AIDS testing, immunisation efforts
 - Large efforts will often manipulate multiple belief systems + other important variables to increase overall intention to behave

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Limitations of Health Belief Model

- Tests of model show limited proof
- Model does not consider:
 - Environmental and economic factors
 - Peer influences
 - Social norms

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Transtheoretical Model: Stages of Change Theory

- The Stage of Change Model, aka Transtheoretical Model, was developed in 1984 by Prochaska and Di Clemente.
- Their work was based on assumption that people are not all at the same stage of readiness when it comes to changing lifestyle factors.
 - While some are ready to begin the change itself, others may not even be aware why it might be important to do so.
- Approach begins with individual assessment of "readiness to change" and customizes health promotion strategies based on their stage.
- The goal is to move a person to the next stage rather than to have a group goal for each person to lose weight, for example.

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Assumptions of Stages of Change Theory

- Behavior change is a process
- Change is not linear but cyclical
- Individuals have varying levels of motivation
- Interventions must target individuals' motivational levels
- Effective self-change depends on doing right thing at right time

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Stages of Change Model

- Behaviour Changes in Stages:
 - Precontemplation- no intention of changing behaviour, and may not think they have a problem at all
 - Contemplation- awareness of problem, some thought of doing something about it within 6 months
 - Preparation- specific behaviours and thoughts involved in planning to change behaviour
 - Action- overt change in behaviour made
 - Maintenance- sustain behaviours and prevent relapse

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Stages of Change Theory

- Different Stages are affected by different factors, thus requiring different assistance to move to next stage
- Relapses part of the model - to be expected
- Recognition of importance of decisional balance (pros and cons of maintaining risky behaviour vs. healthy behaviour)
- Model has been applied to many behaviors, used most widely in smoking cessation research

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Stages of change

- Five stages:
 - Precontemplation
 - Contemplation
 - Preparation/ Decision
 - Action
 - Maintenance
- Simplified view:
 - "Never"
 - "Someday"
 - "Soon"
 - "Now"
 - "Forever"

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Stages of change

Pre-contemplation: "Never"

- Definition
 - Lack of awareness
 - Not considering changing their behaviour
 - May or may not know about risks
- Intervention Approach
 - Novel information
 - Persuasive communications
 - Experiences

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Precontemplation

- People in this stage are not even thinking about changing a habit or unhealthy lifestyle.
- Approx. 40% of individuals are in this stage which explains why health promotion programmes may not reach goals set for health outcomes.
- Individuals in this stage have probably had multiple attempts to change behaviour unsuccessfully, they often blame themselves and may be demoralised.
- These people see the negatives rather than the positives of behaviour change and are not ready for action.
- It is important that these people understand research showing that past failures actually increase a person's chances of success.
- Success in smoking cessation comes after several attempts because it has prepared them for the strategies that work. Research show that on average, people stay in the precontemplation stage for approximately 2 years.

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Stages of change

Contemplation: "Someday"

- Definition
 - Person is beginning to consider behaviour change
 - Important stage of information acquisition
- Intervention Approach
 - Motivated by role modelling and persuasive communications
 - Receptive to planned or incidental learning experiences.
 - May start looking for information about risks
 - May move to this stage because of "emotional arousal"
 - When working with contemplators we must help them to lower their perception of the "cons" (perceived barriers to change) if they are going to be prepared to change.

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Contemplators

- It is during this stage that individuals begin to think about making a change related to their health.
- Some 40% of people are also in this stage, just as 40% are precontemplators, but these are dealing with extreme ambivalence.
- Contemplators are beginning to see more "pro's" in making a change than "con's".
- Information related to their health may begin to influence them more in this stage than previously. They begin to collect cues and messages that begin to increase their receptivity to change. In other words they may begin to see that eating a better diet could pay off for them because they would look better and feel healthier whereas earlier, they just wanted to enjoy eating high calorie foods.
- May be influenced by life events e.g. age/stage transitions.
- These people may go through a lengthy series of changes before moving more toward preparation and action. Unless interventions are tried with contemplators, they may get stuck at this stage for a couple of years.

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Stages of change

Preparation: "Soon"

- Definition
 - Deciding to change by preparing and experimenting.
 - Psychological preparation of trying on or visualising new behaviours and sharing the idea with others.
 - Deciding to change.
- Intervention Approach
 - 'How-to' information
 - Skill development
 - Attitude change



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Preparation

- Individuals begin to image themselves with a different behaviour.
 - Visualising a slimmer body size or a fresher feel without smoking. They may begin to peruse quit smoking aids or look for information on dieting.
- Research shows these individuals will usually begin to make a plan, often mentally and privately, on how to change their habits. Preparers clearly see that the positives in making a change far outweigh the negatives but they have great anxiety that they will fail. Professionals target strategies to decrease anxiety as a primary focus with preparers.
- Other strategies include providing them with basic information to enhance their knowledge and skills related to the new approach.
 - It is important not to underestimate the fact that people may need help with the basics for a new behaviour and may be uncomfortable asking for information. Therefore, offering information is always a good place to start.

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Stages of change

Action:

- Definition
 - Actually trying the new behaviour
 - More concrete moves toward new behaviors

- Intervention Approach
 - Skill
 - Reinforcement
 - Support
 - Self-management
 - Attitude change

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Action

- Only about 20% of people are really at the stage of making a specific change in their habits.
- This is the busiest and most demanding time for people in the change model because not only are they doing things differently for themselves, they must fight the self-doubts and reach for their internal motivators.
- Research suggests that those in the action stage usually plan to work hard for about 3 months to see change but it usually takes much longer for the new activity to become integrated (6 months).
- Requires a long commitment, sometimes as much as several years for an individual not to have temptations and fall back into their old behaviours.
- It usually takes at least 48 months for temptations to decrease among smokers.
- Social support (peer group, family members) and skills in self-management are necessary strategies for people in this stage. It is helpful if friends and family can offer reinforcement.

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Stages of change

Maintenance/Termination: "Forever"

- Definition
 - Establishment of the new behaviour
 - Taking on the new attitudinal and environmental supports

- Intervention Approach
 - Relapse prevention skills
 - Self-management
 - Social and environmental support
 - Continued success requires positive influences

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Maintenance

- Goal to adopt necessary attitudes and establish an environment that will enable a new behaviour to become a lifelong practice.

- Relapse prevention key intervention - many new health behaviours do not survive long term. Individuals must take on new attitudes, knowledge and beliefs to be successful.

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Remember the stages:

Penelope
Considered
Deciding
Against
More

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Limitations of Stages of Change

- Focuses on individual only
- Cannot explain what causes changes
- Does not consider that people's stage levels and durations vary
- Not as useful for explaining behavior changes in complex diseases
- Individuals are unpredictable. What motivates one person may not affect another in the least.

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Summary of Model

- The Stages of Change Model has been used very successfully for a variety of health behaviours and has been particularly effective with adolescents.
- It is important to match the intervention programs to the stage. Most interventions are aimed at the action stage. Older people are more likely to quit smoking and abusing alcohol, while younger people are more likely to lose weight and exercise.
- The beauty of the Stages of Change model is that the goal is to move a person forward one stage, not to immediately make a sweeping lifestyle change. It is a model that is very practical and has shown to be very successful as a change instrument.

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Motivational Interviewing: Listening to Patients

Listen to what?

- Surface vs. deep communication
- Contradiction and ambiguity

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What is MI?

- * A structured talking therapy
- * Directive counselling
- * Technique to recognise and overcome ambivalence
- * Gentle art of changing attitudes
 - Rollnick & Miller (1995)

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7 Implicit beliefs

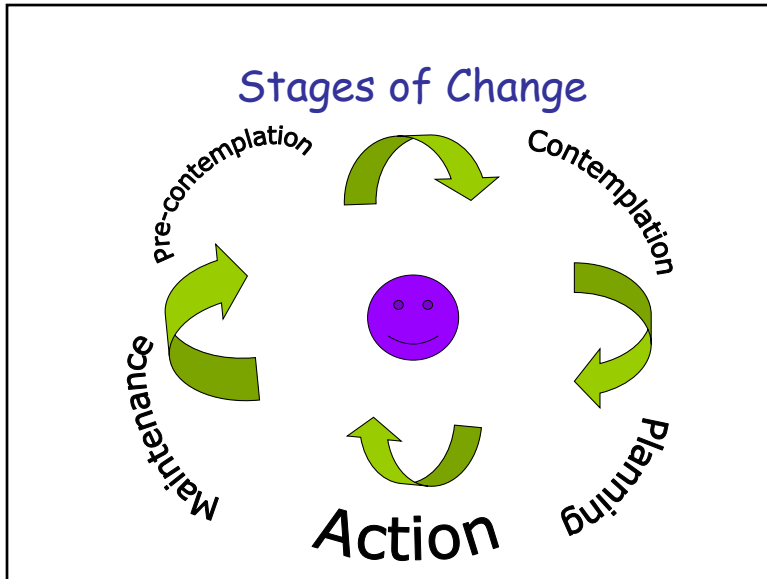
1. Individuals have the capacity to create and *therefore solve* their own health problems
2. Thoughts create feelings and combine to produce behaviour
 - Thoughts → Feelings → Behaviour
 - +
 - =
3. Problems are (most often) complex and simple interventions are only the start

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7 Implicit beliefs

4. The **process** of clarifying and focusing is helpful in highlighting the solutions
5. Process is helpful to outcome but not the *same* as outcome
6. Intervention skills can be taught
7. Theory is essential to guide process

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5 main principles: **1. Avoid argument**

Pt - ".....you people (health care staff) keep telling me to get my blood sugars down - you have no idea what it is like having diabetes!"

- T - ".....you're right! Even if I did have diabetes I wouldn't know what it was like for you. I need you to tell me in your words exactly what it is like so that I have a better idea what frustrates you"

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Pt - ".....my husband thinks I'm swinging it. It's just too much you know all this testing, changing and the like, I don't know if I'm up to it"

T- ".....you've had to take it all on and even those close to you don't see what a burden it is. it sounds like you're at the end of your tether"

2. Express empathy


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Pt - ".....this is the third time I've tried to give up and failed, what now?"

T - ".....you've already showed your commitment to stopping three times, that's good. But more importantly you're having another go, I think that is as much as you can expect of yourself"

3. Support self-efficacy

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Pt - ".....but I can't quit smoking, all my friend smoke!"

4. Roll with resistance

T- "~~.....and it may well be that when we're through, you'll decide that its worth it to keep on smoking. It may be too difficult to make the change. That will be up to you.~~"

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Pt- ".....I never used to worry about my weight.....I know I need to cut down.....I'm about four stone over.....I'd love to wear a bikini"

5. Develop discrepancy

T- " It's clear you have been more satisfied with your appearance in the past, you are not happy with your weight now and you have a goal to lose weight before the holiday in July. That is seven months away, how important on a scale from 1-10 is it to achieve that?"

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Stage 1: Opening strategies

Establish rapport
Using reflection

Setting agenda
Behaviour pattern analysis

Assessing readiness to change
Giving feedback

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Stage 2: Facilitating change

Sharpening the focus

- Identify difference between ideal and actual self-management (level of self-care)

Identify ambivalence (1-10)

- What is it you like about....

Eliciting self-motivating statements

- * Use actual word and paraphrasing

Handling resistance

- * I hear you say you are not ready to.....

Shifting focus

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Common Traps

- Premature focus
- Confrontational avoidance
- Labelling / Blaming
- Q&A
- Expert advisor vs. Facilitator

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Group discussion

- Identify one of your health beliefs that may not be entirely healthy and place it in a model.
- What might move you to change your behaviour?



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Summary

- Behaviour change involves many factors, including cognitive and affective variables.
- Health Promotion is based on several theoretical models that help explain health behaviour.
- Understanding an individual's "readiness to change" is an important aspect of their potential for success in behaviour change.

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Useful Resources

- Ajzen I & Fishbein M (1980) Understanding attitudes and predicting behaviour. Englewood Cliffs NJ: Prentice Hall.
- Becker MH (1974) The health belief model and personal health behaviour. Health Education Monographs 2: 324-508.
- Conner, M. & Norman, P. (2005). Predicting Health Behaviour. Search and Practice with Social Cognition Models. Buckingham: OUP.
- Leventhal H, Diefenbach M & Leventhal E (1992) Illness cognition: Using common sense to understand treatment adherence and affect cognition interactions. Cognitive Therapy & Research. 16, 2, 143-163.
- Miller, W.R., & Rollnick, S. (2002). Motivational Interviewing: Preparing people for change (2nd ed). NY: Guilford Press.
- Prochaska J. & Di Clemente CC (1984) The transtheoretical approach: Crossing traditional foundations of change. Homewood IL: Don Jones / Irwin.
- Rollnick S & Miller W (1995) What is motivational interviewing? Behavioural & Cognitive Psychotherapy. 23 (4) 334.
- Rosenstock, I. (1974). Historical Origins of the Health Belief Model. Health Education Monographs. Vol. 2 No. 4.



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Sample Questions

1. (a) Outline one model of health beliefs. (b) Discuss the problems of attempting to measure a person's health beliefs.
2. What is the Health Belief Model, and what components contribute to the decision to seek health care? Describe an example of a health decision and explain what each of the components are for your example.