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**MODULE PREPARED**

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Contents

[1.Introduction and definition 3](#_Toc105277098)

[2.MODULE CONTENT 4](#_Toc105277099)

[3.Learning Objectives 4](#_Toc105277100)

[4.Health Psychology 5](#_Toc105277101)

[5.The Four Key Theoretical Frameworks 6](#_Toc105277102)

[5.1.The Biopsychosocial Model 6](#_Toc105277103)

[5.2. Health and Illness as a Continuum 7](#_Toc105277104)

[5.3. The Direct and Indirect Pathways between Psychology and Health 7](#_Toc105277105)

[5.4. A Focus on Variability 7](#_Toc105277106)

[6.Mr. A: The example of lung cancer 8](#_Toc105277107)

[7.The Role of Behavior in Health 9](#_Toc105277108)

[7.1.Individual Beliefs about Behavior 10](#_Toc105277109)

[8.Models of Behavior 12](#_Toc105277110)

[8.1.The Stages of Change Model 12](#_Toc105277111)

[8.2.The Health Belief Model 13](#_Toc105277112)

[8.3. The Protection Motivation Theory 15](#_Toc105277113)

[8.4. The Theory of Planned Behavior 16](#_Toc105277114)

[8.5.In Summary 18](#_Toc105277115)

[9.The Example of Eating Behavior 18](#_Toc105277116)

[9.1. Cognition Models 18](#_Toc105277117)

[9.2. The Developmental Model 19](#_Toc105277118)

[9.3.Social Learning 19](#_Toc105277119)

[9.4.Associative Learning: 20](#_Toc105277120)

[9.5.. A Weight Concern Model of Eating Behavior 20](#_Toc105277121)

[10.Becoming Ill and the Role of Illness Cognitions, Help-Seeking, and Communication 22](#_Toc105277122)

[11.How do Health Professionals Make Decisions? 31](#_Toc105277123)

[12.A Model of Problem-Solving 31](#_Toc105277124)

[13.The Role of Health Professional’s Health Beliefs 33](#_Toc105277125)

[14. The Role of Psychology in Chronic Illnesses such as Obesity, Coronary Heart Disease (CHD), and Cancer. 36](#_Toc105277126)

[15.Coronary Heart Disease (CHD) 43](#_Toc105277127)

[15.2.Predicting Patient Health Outcomes 45](#_Toc105277128)

[15.4.The Psychological Factors in the Initiation and Promotion of Cancer 47](#_Toc105277129)

[15.5.Psychology and the alleviation of symptoms 48](#_Toc105277130)

[16.General conclusion 51](#_Toc105277131)

[17. REFERENCES 52](#_Toc105277132)

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# 1.Introduction and definition

For centuries health professionals have recognized that there are psychological consequences of being ill. A diagnosis of cancer or diabetes can make people anxious or depressed. This course will draw upon health psychology, public health, and community psychology to emphasize how psychology can also contribute to the cause, progression, experience, and outcomes of any physical illness. This course will highlight the many roles that psychology plays in physical illness from i) being and staying well and the role of health behaviors and behavior change; ii) becoming ill with a focus on illness beliefs, symptom perception, help-seeking and communication with health professionals; iii) being ill in terms of stress, pain, and chronic illnesses such as obesity, coronary heart disease, and cancer; iv) the role of gender in health, and v) health outcomes in terms of Quality of Life and longevity.

Health psychology is the study of physical illness and addresses problems such as obesity, diabetes, cancer, and coronary heart disease (CHD) with a focus on health behaviors (eg. diet, exercise, sleep, help-seeking, medication adherence), illness beliefs, behavior change, and health outcomes. This first unit will describe the background to health psychology and how it compares to a more traditional biomedical model. It will explore the 4 key theoretical frameworks used in health psychology: the biopsychosocial model, health and illness as a continuum, the direct and indirect pathways between health and illness, and the focus on variability.

# 2.MODULE CONTENT

This module focuses on Understand the importance of psychological health outcomes including Quality of Life and health status.

Students will be encouraged to access current research and with the teaching components, will be able to apply the knowledge and skills gained to their own practice.

This module will be suitable for a range of health care and exercise professionals whose role involves improving and maintaining the health and well-being of service users.

# 3.Learning Objectives

**After successfully reviewing these modules, students will be able to***:*

1. Describe the key theoretical frameworks which underpin a psychological approach to physical health

2. Understand the role of health behaviors in explaining health

3. Describe the psychological factors involved in the onset, maintenance, and change of health behaviors

4. Describe the role of illness beliefs and symptom perception in help-seeking and consultation

5. Describe the psychological factors involved in the stress/illness link and the perception and treatment of pain

6. Describe the ways in which health behaviors, illness beliefs, symptom perception, stress, and pain are key to chronic illnesses

7. Describe how health varies by gender.

# 4.Health Psychology

Over the twentieth century thinking changed and it became obvious that the mind and body were more connected than assumed by the biomedical model. In addition, the greatest risk to health was no longer acute conditions such as TB or flu but chronic illnesses such as coronary heart disease (CHD), cancer, obesity, and diabetes all of which have a clear behavior role. As a result health psychology was developed, which can be understood in terms of the same 5 questions that were asked of the biomedical model:

 ***What causes illness?*** Health psychology suggests that human beings should be seen as complex systems and that illness is caused by a multitude of factors and not by a single causal factor. Health psychology, therefore, attempts to move away from a simple linear model of health and claims that illness can be caused by a combination of biological (e.g. a virus), psychological (e.g. behaviors, beliefs) and social (e.g. social support) factors.

*** Who is responsible for illness?*** Because illness is regarded as a result of a combination of factors, the individual is no longer simply seen as a passive victim. For example, the recognition of a role for behavior in the cause of illness means that the individual may be held responsible for their health and illness.

*** How should illness be treated***? According to health psychology, the whole person should be treated, not just the physical illnesses that have taken place. This can take the form of behavior change, encouraging changes in beliefs and coping strategies, and compliance with medical recommendations.

*** Who is responsible for treatment***? Because the whole person is treated, as compared to just their physical illnesses, the patient is in part responsible for their treatment. This may take the form of responsibility to take medication and responsibility to

change beliefs and behavior. They are not seen as a victim.

*** What is the role of psychology in health and illness***? Health psychology regards psychological factors not only as possible consequences of illness, but as contributing to it at all stages along the continuum from healthy to ill.

Health psychology, therefore, focuses on the role of psychology at all stages of health and illness. In particular, it draws upon the biopsychosocial model of health, health as a continuum, the direct and indirect pathways between psychology and health, and a focus on variability. These 4 key theoretical frameworks will now be considered.

# 5.The Four Key Theoretical Frameworks

## 5.1.The Biopsychosocial Model

The biopsychosocial model was developed by Engel (1977) and represented an attempt to integrate the psychological (the “psycho”) and the environmental (the “social”) into the traditional biomedical (the “bio”) model of health as follows: (1) the bio contributing factors include genetics, viruses, bacteria and structural defects; (2) the psycho aspects of health and illness were described in terms of cognitions (e.g. expectations of health), emotions (e.g. fear of treatment) and behaviors (e.g. smoking, diet, exercise or alcohol consumption); (3) the social aspects of health were described in terms of social norms of behavior (e.g. the social norm of smoking or not smoking), pressures to change behavior (e.g. peergroup expectations, parental pressure), social values on health (e.g. whether health was regarded as a good or a bad thing), social class, the environment, and ethnicity.

## 5.2. Health and Illness as a Continuum

Health Psychology emphasizes health and illness as being on a continuum and explores the ways in which psychological factors impact health at all stages. Therefore psychology is involved in illness onset (e.g. beliefs, behaviors (smoking, diet), stress), help-seeking (e.g. symptom perception, illness cognitions, Dr./patient communication), illness adaptation (e.g. coping, behavior change, social support, pain perception), illness progression (e.g. stress, behavior change) and health outcomes (e.g. Quality of Life, longevity).

## 5.3. The Direct and Indirect Pathways between Psychology and Health

Health psychologists consider both a direct and indirect pathway between psychology and health. The direct pathway is reflected in the physiological literature and from this perspective, the way a person experiences their life (“I am feeling stressed”) has a direct impact upon their body through changes in their physiology which can change their health status. The indirect pathway is reflected more in the behavioral literature and from this perspective, the ways a person thinks (“I am feeling stressed”) influences their behavior (“I will have a cigarette”) which in turn can impact upon their health.

## 5.4. A Focus on Variability

Biomedicine tends to focus on knowledge as a predictor of behavior (“I know smoking kills”) and disease as a predictor of health outcomes (“I have cancer and therefore will die”). Health psychology, however, argues that there is much more variability between people than this and this variability is our focus.

For example, two people might both know that smoking is bad for them but only one stops smoking. Similarly, two people might find a lump in their breast but only one goes to the doctor. Further, two people might both have a heart attack but whilst one has another in 6 months time, the other is perfectly healthy and back to work within a month. This variability indicates that health and illness cannot only be explained by illness severity (type of cancer, severity of heart attack) or knowledge (smoking is harmful) but that other factors must have a key role to play. For a health psychologist, these factors include a wide range of psychological variables such as cognitions, emotions, expectations, learning, peer pressure, social norms, coping, and social support. These constructs are the nuts and bolts of psychology and are covered in the units in this book.

The 4 key theoretical frameworks form the basis of health psychology and reflect the emphasis on psychology as having a role at all stages of being healthy and becoming ill. These frameworks can be illustrated by the case example of Mr. A.

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# 6.Mr. A: The example of lung cancer

Mr. A grew up in a poor area of India. Both of his parents smoked because it helped them relax after a difficult day. Mr. A was given his first cigarette by his friend when he was 12 and they had great fun learning to smoke without coughing too much. If they were lucky, they found half-smoked cigarettes lying around that they could smoke, but as they grew older his parents would give him one of theirs. Sitting with his dad having a cigarette was a chance to chat with him. Smoking then became a habit and a regular part of his daily life. When he was about 45, he noticed that he had developed a cough which he attributed to the change in the weather and just getting older. The cough continued, but given that his parents both still smoked and were fine, he didn’t worry too much or think that it could be related to smoking. After a couple of years, the cough was much worse and he started to feel a pain in his chest. He went to the doctor who sent him for a chest x-ray. He was busy with work and missed 3 different appointments. Eventually, when he managed to get to the hospital the results indicated that he had lung cancer. He was advised to stop smoking, but didn’t because stopping was hard and everyone around him still smoked. Eventually, he had to give up work when his breathing became difficult, which made him lonely and sad. Mr. A died at the age of 55.

This case illustrates many psychological constructs including health beliefs, peer pressure, reinforcement, benefits of a behavior, social norms, habit, illness beliefs, risk perception, help-seeking, delayed help-seeking, doctor decision making, adherence, Quality of Life, and health outcomes.

The psychology of health and illness explores how a number of psychological factors impact on health and illness and emphasizes four perspectives: a biopsychosocial perspective, health and illness as being on a continuum, the direct and indirect pathways between psychology and health, and the focus on variability. This course covers many of the key areas in health psychology and should be of relevance to anyone interested in a broader approach to health and illness.

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# 7.The Role of Behavior in Health

**Overview**

This unit will explore the key role for behavior in health and how behavior can be understood in terms of individual beliefs and a range of psychological models. It will then focus on eating behavior to illustrate how psychological theories can be used to describe and explain why we eat what we eat.

**What are Health Behaviors?**

Health behaviors are regarded as any behavior that is related to the health status of the individual. These can be behaviors that have a negative impact on health such as smoking, eating foods high in fat, drinking large amounts of alcohol, having a sedentary lifestyle, having unsafe sex, and those behaviors that may have a positive effect such as tooth brushing, wearing seat belts, seeking health information, having regular check-ups, taking medication, sleeping an adequate number of hours per night, having a healthy diet, and being active.

## 7.1.Individual Beliefs about Behavior

People hold many different types of beliefs which influence their behavior. Here are some of the key ones.

**i) Attitudes**

We hold attitudes about many aspects of life. For example, we may have an attitude that exercise is boring, that smoking is relaxing, that eating vegetables is healthy, that using a condom takes the fun out of sex, that going to the doctor is embarrassing and that alcohol is good for stress. These attitudes will clearly change and shape how we behave.

**ii) Beliefs about Control**

Attribution theory states that people want to understand what causes events because this makes the world seem more predictable and controllable. People, therefore, develop beliefs about control and may see aspects of the world and their own behavior as either controllable or uncontrollable. For example, a person who is obese may see this as uncontrollable and attribute their body weight to factors such as “genetics”, “hormones” or “diabetes” which they may feel are beyond their control. In contrast, someone who has had a heart attack may attribute this to their unhealthy lifestyle and feel that there is something that they can do about this. This has led researchers to focus on the notion of health locus of control with people showing either an internal or external locus of control. Such beliefs will influence behavior.

**iii) Risk Perception**

People hold beliefs about their own susceptibility to a given problem and make judgments concerning the extent to which they are “at risk”. Smokers, for example, may continue to smoke because although they understand that smoking is unhealthy, they do not consider themselves to be at risk of lung cancer. Likewise, a woman may not get a cervical test because she believes that cervical cancer only happens to women who are not like her.People have ways of assessing their susceptibility to particular conditions, and this is not always a rational process. It has been suggested that individuals consistently estimate their risk of getting a health problem as less than that of others which has been called unrealistic optimism. In addition, people also show risk compensation and can believe that “I have eaten well today and so, therefore, can have a cigarette” as one healthy behavior is seen to compensate for one unhealthy behavior.

**iv) Beliefs about Confidence**

Individuals also hold beliefs about their ability to carry out certain behaviors. Bandura (1977) has termed this self-efficacy to reflect the extent to which people feel confident that they can do whatever it is that they wish to do. A smoker, for example, may feel that she should stop smoking but has very little confidence that she will be able to do so. Likewise, an overweight man may be convinced that he should do more exercise but think that this goal is unlikely to be achieved. These two examples would be said to have low self-efficacy. In contrast, a woman who was motivated to get a health check, and felt confident that she could, would be said to have high self-efficacy. Self-efficacy is a very powerful predictor of behavior.

# 8.Models of Behavior

Researchers have pulled together different beliefs to develop models of health beliefs and their impact on health behaviors as a means to frame research and interventions. Here are some of the key models.

## 8.1.The Stages of Change Model

The Stages of Change model was developed by Prochaska and DiClemente (1982) to describe the processes involved in eliciting and maintaining change. It is based upon the

following stages:

**1 Pre-contemplation:** not intending to make any changes

**2 Contemplation:** considering a change

**3 Preparation:** making small changes

**4 Action:** actively engaging in a new behavior

**5 Maintenance:** sustaining the change over time

These stages, however, do not always occur in a linear fashion (simply moving from 1 to 5) but the theory describes behavior change as dynamic and not “all or nothing”. For example, an individual may move to the preparation stage and then back to the contemplation stage several times before progressing to the action stage. Furthermore, even when an individual has reached the maintenance stage, they may slip back to the contemplation stage over time. The model also examines how the individual weighs the costs and benefits ofaparticular behavior which is referred to as decisional balance. In particular,its authors argue that individuals at different stages of change will differentially focus on either the costs of a behavior (e.g. “stopping smoking will make me anxious”) or the benefits of the behavior (e.g. “stopping smoking will improve my health”). For example, a smoker at the action stage (“I have stopped smoking”) and the maintenance stage (“for four months”) tend to focus on the favorable and positive feature of their behavior (“I feel healthier because I have stopped smoking”), whereas smokers in the pre-contemplation stage tend to focus on the negative features of the behavior (“stopping smoking will make me anxious). The Stages of Change Model has been applied to several health-related behaviors, such as smoking, alcohol use, exercise, and health screening behavior. It is also increasingly used as a basis to develop interventions that are tailored to the particular stage of the specific person concerned.

For example, a smoker who has been identified as being at the preparation stage would receive a different intervention from one who was at the contemplation stage. There have been many criticisms of the Stages of Change Model, but it a simple and useful approach to describing behavior and frame ways in which to change this behavior.

## 8.2.The Health Belief Model

The Health Belief Model (HBM) (see Figure 1) was developed initially by Rosenstock (1966) and further by Becker and colleagues throughout the 1970s and 1980s. Over recent years, the Health Belief Model has been used to predict a wide variety of health-related behaviors.

The HBM predicts that behavior is a result of a set of core beliefs, which have been redefined over the years. The current core beliefs are the individual’s perception of:

 susceptibility to illness (e.g. “my chances of getting lung cancer are high”)

 the severity of the illness (e.g. “lung cancer is a serious illness”)

 the costs involved in carrying out the behavior (e.g. “stopping smoking will make me

irritable”)

 the benefits involved in carrying out the behavior (e.g. “stopping smoking will save

me money” or “smoking is cool”)

 cues to action, which may be internal (e.g. the symptom of breathlessness), or external

(e.g. information in the form of health education)

 perceived control (e.g. “I am confident that I can stop smoking”)

 health motivation (e.g. “I am concerned that smoking might damage my health”)

The HBM suggests that these core beliefs should be used to predict the likelihood that a behavior will occur. For example, if applied to a health-related behavior such as screening for cervical cancer, the HBM predicts regular screening for cervical cancer if an individual perceives that she is highly susceptible to cancer of the cervix, that cervical cancer is a severe health threat, that the benefits of regular screening are high, and that the costs of such action are comparatively low. This will also be true if she is subjected to cues to action that are external, such as a brochure in the doctor’s waiting room, or internal, such as a symptom perceived to be related to cervical cancer (whether correct or not), such as pain or bleeding.

Further, the model would also predict that a woman would get a screening if she is confident that she can do so and if she is motivated to maintain her health. Much research has been carried out using the HBM indicating that the different components can predict a range of behaviors including dietary compliance, safe sex, having vaccinations, making regular dental visits, taking part in regular exercise programs and health screening behavior. There are several criticisms of the HBM, however, including its focus on the conscious processing of information (for example, is tooth-brushing really determined by weighing up the pros and cons?); its emphasis on the individual (for example, what role does the social and economic environment play?); the absence of the role for past behavior and habit; and the absence of a role for emotional factors such as fear and denial.

But the HBM has been a useful approach for carrying out research and designing interventions.

## 8.3. The Protection Motivation Theory

Rogers (1975, 1985) developed the Protection Motivation Theory (PMT), which expanded the HBM to include additional factors, particularly fear as an attempt to include an emotional component into the understanding of health behaviors.

The PMT describes health behaviors as a product of five components:

1 Severity (e.g. “Bowel cancer is a serious illness”)

2 Susceptibility (e.g. “My chances of getting bowel cancer are high”).

3 Response effectiveness (e.g. “Changing my diet would improvhealth”).

4 Self-efficacy (e.g. “I am confident that I can change my diet”).

5. Fear (e.g. an emotional response “I am scared of getting cancer”)

These components predict behavioral intentions (e.g. “I intend to change my behavior”), which are related to behavior. If applied to dietary change, the PMT would make the following predictions: information about the role of a high-fat diet in coronary heart disease would increase fear, increase the individual’s perception of how serious coronary heart disease is (perceived severity), and increase their belief that they were likely to have a heart attack (perceived susceptibility). If the individual also felt confident that they could change their diet (self-efficacy) and that this change would have beneficial consequences (response effectiveness), they would report high intentions to change their behavior (behavioral intentions).

Much research has used the PMT to predict a range of health behaviors including exercise, breast self-examination, wearing an eye patch, binge drinking, and physical activity. The PMT has been less widely criticized than the HBM; however, many of the criticisms of the HBM also relate to the PMT. For example, the PMT assumes that individuals are conscious information processors; it does not account for habitual behaviors, nor does it include a role for social and environmental factors.

## 8.4. The Theory of Planned Behavior

The Theory of Reasoned Action (TRA) was extensively used to examine predictors of behaviors and was central to the debate within social psychology concerning the relationship between attitudes and behavior (Fishbein and Ajzen 1975). The Theory of Planned Behavior (TPB) was developed by Ajzen and colleagues (Ajzen and Madden 1986) and represented a progression from the TRAThe TPB emphasizes behavioral intentions as the outcome of a combination of several beliefs. The theory proposes that intentions should be conceptualized as “plans of action in pursuit of behavioral goals” (Ajzen and Madden 1986) and are a result of the following beliefs:

 Attitude towards a behavior, which is composed of either a positive or negative

evaluation of a particular behavior and beliefs about the outcome of the behavior (e.g. “exercising is fun and will improve my health”).

 Subjective norm, which is composed of the perception of social norms and pressures to perform a behavior and an evaluation of whether the individual is motivated to comply with this pressure (e.g. “people who are important to me will approve if I lose weight and I want their approval”).

 Perceived behavioral control, which is composed of a belief that the individual can carry out a particular behavior based upon a consideration of internal control factors (e.g. skills, abilities, information) and external control factors (e.g. obstacles, opportunities), both of which relate to past behavior.

According to the TPB, these three factors predict behavioral intentions, which are then linked to behavior. The TPB also states that perceived behavioral control can have a direct effect on behavior without the mediating effect of behavioral intentions.If applied to alcohol consumption, the TPB would make the following predictions: if an individual believed that reducing their alcohol intake would make their life more productive and be beneficial to their health (attitude to the behavior) and believed that the important people in their life wanted them to cut down (subjective norm), and in addition believed that they were capable of drinking less alcohol due to their past behavior and evaluation of internal and external control factors (high behavioral control), then this would predict high intentions to reduce alcohol intake (behavioral intentions). The model also predicts that perceived behavioral control can predict behaviour without the influence of intentions. For example, if perceived behavioral control reflects actual control, a belief that the individual would not be able to exercise because they are physically incapable of exercising would be a better predictor of their exercising behavior than their high intentions to exercise.

The TPB has been used extensively to predict a wide range of behaviors including condom use in both gay and heterosexual populations, blood donation for blood transfusion and organ donation, smoking, exercise during pregnancy, walking, speeding behavior using a driving simulator, deliberate self-harm, and suicidality. In contrast to the HBM and the PMT, this model attempts to address the problem of social and environmental factors (in the form of normative beliefs). It also includes a role for past behavior within the measure of perceived behavioral control. However, the TPB has also been subjected to criticisms in terms of its constructs, the methods used to test the TPB and the extent to which it can predict behavior.

## 8.5.In Summary

Behavior is central to health and illness and is clearly linked to the beliefs we hold. Psychology has identified a number of beliefs to predict behavior and then pulled these together into models which can be used for research and to design behavior change interventions. Eating behavior is a key behavior. We will now look specifically at eating behavior in order to illustrate the ways in which psychological theory can help explain why we behave in the way that we do.

# 9.The Example of Eating Behavior

Eating behavior is a health behavior which is clearly linked to health and illness. For example, poor diet is associated with a range of health conditions including obesity, diabetes, coronary heart disease (CHD), cancer, joint problems, hypertension, and stroke. Eating behavior has been studied using three key theoretical approaches which can also be applied to all other health behaviors. These are as follows:

## 9.1. Cognition Models

A cognitive approach to eating behavior focuses on an individual’s cognitions and has explored the extent to which cognitions predict and explain behavior. Most research has drawn upon social cognition models particularly the HBM and the TPB as described above.

Some research using a cognitive approach to eating behavior has focused on predicting the intentions to consume specific foods such as the intentions to eat whole grains, skimmed milk, organic vegetables, and whole grain bread. Much research suggests that behavioral intentions are not particularly good predictors of behavior. Studies have also used the TPB to explore the cognitive predictors of actual behavior and have explored behaviors such as table salt use, healthy eating, low-fat milk consumption, and the intake of fruit and vegetables. The belief which seems to be most predictive of diet is perceived behavioral control indicating that the more control someone feels that they have over eating well, the more likely it is that they are able to actually eat well.

## 9.2. The Developmental Model

Eating behavior is therefore related to beliefs people hold. These beliefs are learned from a range of sources including parents, peers, siblings, friends, and the media. This process of learning can be understood using the developmental model of eating behavior with its emphasis on exposure, social learning, and associative learning (Birch, 1999). Exposure: The role of exposure simply describes the impact of familiarity on food preferences. Human beings need to consume a variety of foods to have a balanced diet and yet they commonly show fear and avoidance of new foods (called neophobia). Young children will, therefore, show neophobic responses to a new food but must come to accept and eat foods which may originally appear to be threatening. In line with this, studies show that simply repeatedly exposing children to foods can change children’s preferences and have indicated that between 8-10 times is optimal.

## 9.3.Social Learning

Social learning or modeling reflects the impact of watching other people’s behavior on our own behavior and is derived from social learning theory. In terms of eating, research indicates that food preferences can be learned from role models, peers, parents, and the media. For example, research on peer modeling indicates that after one week children will change their vegetable preference according to the preferences of the child they sit with and that when children leave home, parents own behavior is the best predictor of a child’s eating behavior after one year of independence.

## 9.4.Associative Learning:

There is also a wealth of research showing that both conditioning and reinforcement influence food preferences in children. For example, rewarding food choice with praise in the form of parental approval seems to improve food preferences. Further, using food to reward behavior as in “if you are well behaved you can have a cookie” not only has positive effects on a child’s behavior in the short term but also makes the reward food more attractive which can encourage unhealthy food preferences if the reward food is an unhealthy food. In addition, using food to encourage the intake of other foods as in “if you eat your vegetables you can have pudding” can also change food preferences and this practice has been shown to increase the preference for the reward food (pudding), but in turn decrease preference for the access food (vegetables).

## 9.5.. A Weight Concern Model of Eating Behavior

Food is associated with many meanings such as a treat, a celebration, a family get-together, being a good mother, and being a good child. Furthermore, once eaten, food can change the body’s weight and shape, which is also associated with meanings such as attractiveness, control, and success. As a result of these meanings many women, in particular, show weight concern in the form of body dissatisfaction, which often results in dieting. The impact of dieting, which has been termed “restrained eating” on eating behavior will now be described.

Dieting aims to reduce food intake and several studies have found that at times this aim is successful. But several studies have also shown that higher levels of dieting are related to increased food intake. In particular, by trying to eat less, dieters can become more preoccupied with food, meaning than when they break their diet they then overeat. For example, if a person spends all day thinking “I won’t eat cookies” they become preoccupied with cookies so that when they give in and have one they then end up eating the whole package. This is called disinhibition or the “what the hell effect” and can occur as a response to denial, mood changes, alcohol, smoking cessation, or simply eating something that was being avoided. In summary, diet relates to health both in terms of illness onset, prevention, and treatment, however, many people do not always eat in accordance with current dietary recommendations. Psychological research has focused on three main theoretical perspectives to explain eating behavior. A developmental approach emphasizes exposure and social and associative learning, a cognitive model emphasizes an individual’s cognitions, and a weight concern model draws upon the literature relating to dieting and the causes of overeating. These theories can also be applied to all other forms of health behavior.

Behavior is central to health and illness and can be predicted by people’s beliefs using

individual beliefs or models. Eating behavior is central to many health issues and illustrates

how psychology can be used to understand why people behave in the way that they do.

# 10.Becoming Ill and the Role of Illness Cognitions, Help-Seeking, and Communication

We described health beliefs and the models that have been developed to evaluate these beliefs and their relationship to health behaviors. People, however, also have beliefs about illness and these beliefs relate to how they behave when they are ill, whether or not they seek help and the communication they then have with their health professional. This unit will describe illness beliefs in the context of a model called the Self Regulatory Model (SRM). It will then describe the factors relating to help-seeking behavior which includes symptom perception and illness beliefs and then explore medical consultation and the role of the health professional’s own beliefs in the clinical decision-making process.

**What are Illness Beliefs?**

Howard Leventhal and his colleagues (Leventhal et al. 1980, 2007) defined illness beliefs as “a patient’s own implicit common sense beliefs about their illness”. They proposed that these beliefs provide patients with a framework or a schema for coping with and understanding their illness, and telling them what to look out for if they are becoming ill. Using interviews with patients suffering from a variety of health conditions, Leventhal and colleagues

identified 5 core beliefs:

1 Identity: This refers to the label given to the illness (the medical diagnosis) and the symptoms experienced (e.g. “I have a cold” – the diagnosis, “with a runny nose” –

the symptoms).

2 The perceived cause of the illness: These causes may be biological, such as a virus or a lesion, or psychosocial, such as stress or health-related behavior. In addition, patients may hold representations of illness that reflect a variety of different causal models (e.g. “My cold was caused by a virus”, “My cold was caused by being run down”).

3 Time line: This refers to the patients’ beliefs about how long the illness will last, whether it is acute (short-term) or chronic (long-term) (e.g. “My cold will be over in a few days”).

4 Consequences: This refers to the patient’s perceptions of the possible effects of the illness on their life. Such consequences may be physical (e.g. pain, lack of mobility), emotional (e.g. loss of social contact, loneliness) or a combination of factors (e.g. “My cold will prevent me from playing football, which will prevent me from seeing my friends”).

5 Curability and controllability: Patients also represent illnesses in terms of whether they believe that the illness can be treated and cured and the extent to which the outcome of their illness is controllable either by themselves or by powerful others (e.g. “If I rest, my cold will go away”, “If I get medicine from my doctor my cold will go away”).

Leventhal incorporated his description of illness beliefs into his Self-Regulatory Model of Illness Behavior (SRM). This model is based on approaches to problem-solving and suggests that illness/symptoms are dealt with by individuals in the same way as any other problem. It is assumed that, given a problem or a change in the status quo, the individual will be

motivated to solve the problem and re-establish their state of normality. Traditional models describe problem-solving in three stages: (1) interpretation (making sense of the problem); (2) coping (dealing with the problem in order to regain the status quo); and (3) appraisal (assessing how successful the coping stage has been). According to models of problem-solving, these three stages will continue until the coping strategies are deemed to be successful and a state of equilibrium has been attained. In terms of health and illness, if healthiness is an individual’s normal state, then any onset of illness will be interpreted as a problem and the individual will be motivated to re-establish their state of health (i.e. illness is not the normal state).

These stages have been applied to health using the Self Regulatory Model of IllnessThe different stages are as follows.

***Stage 1: Interpretation***

An individual may be confronted with the problem of a potential illness through two channels: symptom perception (“I have a pain in my chest”) or social messages (“the doctor has diagnosed this pain as angina”). The individual is then motivated to returnto a state of “problem-free” normality which involves assigning meaning to the problem which is done by accessing the individual’s illness beliefs in terms of the following dimensions: identity, cause, consequences, time line, and cure/control. These illness beliefs will give the problem meaning and will enable the individual to develop and consider suitable coping strategies. However, an illness belief is not the only consequence of symptom perception and social messages and a person will also show changes in their emotional state.

For example, perceiving the symptom of pain and receiving the social message that this pain may be related to coronary heart disease may result in anxiety.

Therefore, any coping strategies have to relate to both the illness belief and the emotional state of the individual.

Stage 2: Coping

The next stage in the self-regulatory model is the development and identification of suitable coping strategies. Coping can take many forms, however, there are two broad categories of coping which incorporate the multitude of other coping strategies: approach coping (e.g. taking pills, going to the doctor, resting, talking to friends about emotions) and avoidance coping (e.g. denial, wishful thinking, drinking too much alcohol). When faced with the problem of illness, the individual will develop coping strategies in an attempt to return to a state of healthy normality.

***Stage 3: Appraisal***

The third stage of the Self Regulatory Model is appraisal. This involves individuals evaluating the effectiveness of the coping strategy and determining whether to continue with this strategy or whether to try an alternative one.

Therefore, not only do people have beliefs about their health behaviors such as diet, exercise, and smoking but also about their illnesses. These illness beliefs seem to be made up of 5 core beliefs and are central to how people make sense of their illness. This, in turn, influences the choice of coping strategies and the ultimate outcome of their health condition as illustrated by the SRM. The ways in which people make sense of a range of chronic illnesses will be explored in unit 6. The rest of this unit will explore how illness beliefs influence help-seeking behavior and the communication they have with their health care professional in a consultation.

**Help-Seeking Behavior**

Help-seeking behavior refers to the process of deciding to get professional help for a health-related problem. According to a biomedical model help-seeking relates to two factors:

• Symptoms: The patient has a headache, back problem, or change in bowel habits that indicates that something is wrong.

• Signs: On examination, the doctor identifies signs such as raised blood pressure, a lump in the bowel, or hears rattling when listening to a patient’s chest which indicates that there is a problem.

From this perspective, the doctor is a detective and the patient is required to bring them the problem. Help-seeking, however, is not as simple as this and many people go to the doctor with very minor symptoms (e.g. “I had a sore throat last week but it’s gone now”, “I’m tired but keep going to bed late”) and many patients don’t go to their doctor when they have something serious (e.g. “I have had this breast lump for about five years and it has now come through the skin”). Help-seeking is, therefore, much more complex than the detection of symptoms and the identification of signs, and can be understood in terms of a number of thresholds that need to be reached. These thresholds are as follows:

• Is it a symptom? “I have a pain in my stomach”.

• Is it normal or abnormal? “I have a pain in my stomach and it’s not just indigestion”

• Do I need help? “I have a pain in my stomach, it’s not just indigestion and it

might be cancer”.

• Could a doctor help? “I have a pain in my stomach, it’s not just indigestion and it

might be cancer and doctors know about cancer”.

These thresholds can be understood in terms of three processes: symptom perception,

illness beliefs, and the costs and benefits of going to the doctor.

**i) Symptom perception**

The translation of a vague feeling into the concrete entity of a symptom involves the

processes of symptom perception. Research indicates that whether or not we perceive

ourselves as having a symptom is influenced by four main sources of information:

***Bodily data:*** Symptom perception is in part “data-driven” as we receive information from our bodies. Symptom perception, however, is not as simple as receiving bodily data and symptom severity can be exacerbated or modified through mood, cognitions, and the social context. Symptoms can be generated even in the absence of bodily data (e.g. Watching a film of head lice can make people itch).

***Mood:*** Stress and anxiety can make symptoms worse, whereas relaxation can make them feel better. For example, higher depression and anxiety are consistently linked with greater symptom perception for a range of chronic illnesses such as irritable bowel syndrome, fibromyalgia, and chronic fatigue syndrome.

***Cognitions:*** Focusing on a symptom makes it worse and distraction makes it better. Therefore, many strategies can help reduce symptoms through distraction including being busy, talking to friends, using stress balls during an operation, listening to music, and staying employed if possible.

***Social Context:*** Symptoms also vary according to social context. For example “medical

student’s disease” describes how medical students often develop the symptoms of whatever condition they are studying and research also indicates that smiling, yawning, shivering, and itching can be contagious if people watch others experiencing these symptoms. The processes of symptom perception, therefore, help to translate a vague experience into a concrete symptom. Before this leads to help-seeking, however, the individual also has to decide whether the symptom is abnormal and whether it requires formal help from a doctor. This is influenced by the development of illness beliefs.

**ii) Illness Beliefs**

Once a symptom has been perceived as such, a person then forms a mental representation of the problem. This has been called their “illness belief” which was described above. Research indicates that illness beliefs often consist of the same 5 dimensions relating to identity (“what is it?”), timeline (“how long will it last?”), causes (“what caused it?”), consequences (“will it have a serious effect on my life?”) and control/cure (“Can I manage it or do I need treatment?”). The formation of these beliefs will be helped by social messages from friends, family, or the media to decide whether or not a symptom is serious, abnormal, or manageable by self-care. It will also be influenced by the individual’s own health history and expectations of their own level

of health. For example, a patient who has recurring headaches may be less surprised by a new

headache whereas someone who is always well may react more strongly to a less serious symptom. This process of normalization can pose problems for both the patient and the doctor (once in a consultation) as a heavy smoker may not tell the doctor that they are breathless because they always are and have become used to it. Further, if an individual lives in a family where indigestion is normal, then chest pain may be more readily labeled indigestion than “possible heart attack”.

Therefore, illness beliefs take the symptom up to the next threshold as it is deemed to be abnormal (or not) and serious (or not).

**iii) Costs and benefits of Going to the Doctor**

The final step before a patient seeks help involves weighing the costs and benefits of seeing the doctor. These can be classified as follows:

**Therapeutic:** First the patient needs to weigh the therapeutic costs and benefits of going to the doctor. Possible benefits include gaining access to effective treatments and being referred for specialist advice and treatment. Help-seeking also comes with costs, however, such as being given medicines to take (for someone who doesn’t like taking medicines), taking medicines with side effects, having to go through a potentially embarrassing physical examination, or having to talk about an embarrassing personal problem.

**Practical:** Any visit to the doctor involves practical costs because it involves time off work, time away from the family, the cost of travel and the effort in getting to the doctor’s office.

**Emotional:** Many people enjoy visiting their doctor for emotional reasons. For example, the trip can give a structure to their day, they might meet people to talk to at the office and the doctor can be reassuring, interested, sympathetic and caring. There may, however, also be negative emotions generated by such a visit, such as embarrassment or a feeling of being a nuisance to a doctor who is perceived as already too busy and overworked.

**The Sick Role:** A doctor has the power to turn a person into a patient by legitimizing their symptoms. Therefore, although they may have been complaining of a sore throat, they will get more sympathy if they can say “my doctor says I have tonsilitis”. This has been called the “sick role” and can come with benefits known as secondary gains (taking time off work, or

sympathy) or costs (feeling ill).

Help-seeking, therefore, reflects a number of thresholds whereby an initial sensation (“Ouch”) is turned into a symptom which is deemed to be abnormal and serious enough to need professional help and whereby the benefits of seeing the doctor outweigh the costs.

This involves symptom perception, illness beliefs, and weighing the costs and benefits of going to the doctor.

**The Medical Consultation**

Once a person has decided to seek help, they come into contact with a health professional and this consultation between the patient and health professional is the context within which key decisions about diagnosis and management are made. Traditional models of the consultation regarded doctors as the expert with an objective knowledge set that came from their extensive medical education, which was communicated to a passive patient who absorbed any suggestions

and responded accordingly. More recently, the relationship has become more equal with the doctor being seen as having their own beliefs and biases and the patient being seen as knowing pertinent information. This raises issues around how health professionals make decisions and the extent to which this is influenced by their own beliefs.

# 11.How do Health Professionals Make Decisions?

Health professionals are now confronted with patients with illnesses such as cancer, heart disease or Multiple Sclerosis, but patients present with a huge range of vague and often very common symptoms such as headaches, back pain, tiredness, and bowel changes. Their role is to decide what these symptoms mean. This involves differentiating between the pain in the chest that means “indigestion” and the one that means “heart disease” and the raised temperature that means “the flu” and the one that means “meningitis”. Once a problem has been diagnosed they then have to decide on an appropriate management strategy which could range from “do nothing because it will go away”, “prescribe medicine”, “refer as a non-urgent patient for a second opinion”, “refer urgently” or “call the ambulance”. The doctor’s role is, therefore, highly skilled and complex. It is further complicated by the high numbers of people coming through their doors with housing, relationship, and insurance benefits issues. Some patients come every week with a different symptom and some patients are too embarrassed to describe the real reason for their visit, but spend the consultation describing another symptom that is irrelevant. This process of clinical decision-making has been understood within the framework of problem-solving.

# 12.A Model of Problem-Solving

Clinical decisions can be conceptualized as a form of problem-solving and involve the development of hypotheses early on in the consultation process. These hypotheses are subsequently tested by the doctor’s selection of questions. Models of problem-solving have been applied to clinical decision making to highlight the process of formulating a clinical decision and involves the following stages.

The stages of decision-making are as follows:

***1. Accessing information about the patient’s symptoms.*** The initial questions in any consultation from a health professional to the patient will enable the health

professional to understand the nature of the problem and to form an internal

representation of the type of problem.

***2. Developing hypotheses***. Early on in the problem-solving process, the health professional develops hypotheses about the possible causes and solutions to

the problem.

***3 Search for attributes.*** The health professional then proceeds to test the hypotheses by searching for factors either to confirm or to refute their hypotheses. Research into the hypothesis-testing process has indicated that although doctors aim to either confirm or refute their hypothesis by asking balanced questions, most of their questioning is biased towards confirmation of their original hypothesis. Therefore an initial hypothesis that a patient has a psychological problem may cause the doctor to focus on the patient’s psychological state and ignore the patient’s attempt to talk about their

physical symptoms. Studies have shown that doctors’ clinical information collected subsequent to the development of a hypothesis may be systematically distorted to support the original hypothesis. Furthermore, the type of hypothesis has been shown to bias the collection and interpretation of any information received during the consultation. This is known as confirmation bias.

***4 Making a management decision.*** The outcome of the clinical decision-making process involves the health professional deciding on the way forward. The outcome of a consultation and a diagnosis, however, is not an absolute entity but is itself a hypothesis and an informed guess that will be either confirmed or refuted by future events.

**Explaining Variability**

Not all health professionals make the same decisions, however, and if one patient were to visit different doctors they may end up with a different diagnosis, a different referral, and different treatment plans. This variability in the behavior of health professionals can be

understood in terms of the processes involved in clinical decisions. For example, health

professionals may:

 access different information about the patient’s symptoms

 develop different hypotheses

 access different attributes either to confirm or to refute their hypotheses

 have differing degrees of bias towards confirmation

 consequently reach different management decisions.

One key area that influences health care professionals’ decision making is their health beliefs.

# 13.The Role of Health Professional’s Health Beliefs

Patients have beliefs about their behavior (i.e. their health beliefs) and about their illnesses (i.e. their illness beliefs). Health professionals also have their own beliefs and these influence the clinical decision-making process. In particular, these beliefs can influence the original

hypothesis as follows:

1. The health professional’s own beliefs about the nature of clinical problems. If a health professional believes that health and illness are determined by biomedical

factors (e.g. lesions, bacteria, viruses) then they will develop a hypothesis about the patient’s problem that reflects this perspective (e.g. a patient who reports feeling tired all the time may be anemic). However, a health professional who views health and illness as relating to psychosocial factors may develop hypotheses reflecting this

perspective (e.g. a patient who reports feeling tired may be under stress).

***2. The health professional’s estimate of the probability of the hypothesis and disease.***

Health professionals believe that some conditions are more common than others

depending on their experience. For example, some doctors may regard childhood asthma as a common complaint and hypothesize that a child presenting with a cough has asthma, whereas others may believe that childhood asthma is rare and so will not consider this hypothesis. This will change their decision-making.

***3. The seriousness and treatability of the disease***. Health professionals also have beliefs about how serious and treatable different conditions are. As a result, they consider the “pay-off” between their beliefs about seriousness and treatability. For example, a child presenting with abdominal pain may result in an original hypothesis of appendicitis because this is both a serious and treatable condition, and the benefits of

arriving at the correct diagnosis for this condition far outweigh the costs involved (such as time-wasting) if this hypothesis is refuted.

The original hypothesis will also relate to the health professional’s existing knowledge of the patient. Such factors may include the patient’s medical history, knowledge about their psychological state, an understanding of the world they live in and a belief about why the patient uses medical services.

***5. The health professional’s stereotypes.*** Most meetings between health professionals and

patients are time-limited and consequently, stereotypes play a central role in developing and testing a hypothesis and reaching a management decision. Stereotypes reflect the process of “cognitive economy” and may be developed according to a multitude of factors such as how the patient looks/talks/walks or whether they remind the health professional of previous patients. Without stereotypes, consultations between health professionals and patients would be extremely time-consuming.

Other factors that may influence the development of the original hypothesis include mood, the health professional’s own age, sex, weight, geographical location, previous experience and health-related behavior (e.g. diet, exercise).

People not only have beliefs about their behavior but also about illness. These illness beliefs are key to the process of sense-making and have been studied within the context of the Self

Regulatory Model (SRM). Such beliefs influence help-seeking which also relates to symptom perception and weighing the costs and benefits of going to the doctor. Health

professionals, however, also have beliefs and these are central to the clinical decision-making process.

# 14. The Role of Psychology in Chronic Illnesses such as Obesity, Coronary Heart Disease (CHD), and Cancer.

Overview

So far this course has explored the 4 key theoretical frameworks underpinning the psychology of health and illness, namely the biopsychosocial model, health and illness as a continuum, the direct and indirect pathways between psychology and health, and the focus on variability. It has then described the role of health behaviors such as diet, exercise, smoking, and safe sex and illustrated how these can be predicted and understood using individual beliefs and models. It has then explored how behavior can be changed using strategies based on a number of psychological theories. Next, it has emphasized the role of illness beliefs and how they influence an individual’s experience of illness, whether they seek help and their experiences of medical consultation. It then described the experience of illness with a focus on stress and pain and how both of these problems highlight the key role for appraisal and sense-making and the impact of psychological factors on health outcomes.

ALL of these factors discussed so far are relevant to the experience of all chronic illnesses

including obesity, coronary heart disease, and cancer. This is the focus of this unit.

**Obesity**

This unit will describe obesity in terms of what obesity is, its consequences, causes, and treatment. These different aspects illustrate the role of psychological factors at all stages of this chronic illness.

**What is Obesity?**

Obesity is most commonly defined using Body Mass Index (BMI: weight (kg) / height (m2).

Using this approach the following definitions are used for adults: normal weight: BMI 18.5-24.9; overweight: BMI 25-29.9; obese: BMI 30+. The World Health Organization estimates that 1.5 billion adults across the world are overweight and 400 million are obese. The highest rates of obesity are found in Tunisia, the U.S.A., Saudi Arabia and Canada, and the lowest are found in China, Mali, Japan, Sweden, and Brazil; the UK, Australia. and New Zealand are all placed in the middle of the range. The prevalence of overweight children

worldwide has doubled or tripled in the past 20 years in the following countries: Australia, razil, Canada, Chile, Finland, France, Germany, Greece, Japan, the UK, and the U.S.A. Globally, the number of overweight children under the age of five in 2010 was estimated to be over 42 million with close to 35 million of these living in developing countries.

**Consequences**

For children, the most immediate consequences of being obese are psychological as they may

experience low self-esteem, anxiety, low mood, a general lack of confidence, and are more

likely to be bullied than thin children, which can lead to underachievement or missing school.

Similarly, obese adults are more likely to suffer from depression, anxiety, low self-esteem, and high levels of body dissatisfaction due to the stigma associated with being overweight in many cultures. In terms of physical problems, obesity in childhood is associated with childhood asthma and Type 2 Diabetes. For adults, obesity is clearly associated with cardiovascular disease, heart attacks, diabetes, joint trauma, back pain, many types of cancer, hypertension, strokes, and reduced life expectancy.

**Causes**

There are three key approaches to understanding the causes of obesity which focus on genetics, the environment, and behavior.

**i) Genetics**

Size appears to run in families and the probability that a child will be overweight is related to their parents’ weight. For example, having one obese parent results in a 40 percent chance of producing an obese child, and having two obese parents results in an 80 percent chance.

Parents and children, however, share both their environment and genetics so this likeness could be due to either factor. To address this problem, research has examined twins and adoptees. In general, researchers believe that there is a role for genetics for both weight and where body fat is stored (upper versus lower body), that a mother’s weight is a better predictor of her child’s weight than that of the father, and that the role of genetics gets less as a person’s BMI gets larger. But genetics cannot explain the dramatic increase in obesity over the past 30 years, why a person’s body weight changes as they migrate from one country to the next, and why body weights are more similar within peer groups than within biological families.

**ii) The Obesogenic Environment**

To explain the increase in obesity, researchers have focused on the “obesogenic environment”. For example, the food industry with its food advertising, inexpensive ready-made meals, and take-out, discourages food shopping and cooking, and encourages eating out and snacking. There has also been a reduction in manual labor and an increase in the use of cars, computers, and television which makes people more sedentary at both work and at home. This obesogenic environment creates a world in which it is easy to gain weight and requires effort to remain thin. But not everyone living in an obesogenic

environment becomes obese which highlights the role of two key behaviors: eating behavior and physical activity.

**iii) Individual Behavior**

**Eating Behavior**

Eating behavior is a product of an individual’s beliefs, their learning from childhood, and the meanings associated with food and body weight which can lead to weight concerns. These factors have been considered in unit 2. In terms of obesity, the literature particularly highlights the role of emotional eating and mindless eating, which illustrate how eating behavior is a result of learning, emotions, and the world we live in.

Emotional Eating: Much research indicates that people often eat in response to their emotions and utilize food for emotional regulation. This approach derives from a psychosomatic model of eating which argues that people use food to satiate their emotional needs and research indicates a role for emotions such as boredom, distress, and anxiety in the eating behavior of the majority of the population, and that this may be linked to obesity.

Unfortunately, eating to manage your emotions mostly only works in the short term because although you may briefly feel better after eating, you will soon feel guilt, self-hate, and low self-esteem, which in turn can cause further eating.

Mindless Eating: Much eating behavior is triggered by external cues such as the sight or smell of food, increased portion sizes, or simple availability. This has been labeled “mindless eating” or “external eating” and has been shown across a number of different situations including social eating, while listening to music, while playing computer games, eating on the go, and while watching TV. This causes weight gain over time and can lead to obesity.

**Physical Activity**

Research also indicates a key role for physical activity in obesity and being active protects against weight gain while an inactive lifestyle causes weight gain and obesity. Research also indicates that obese people walk less on a daily basis than non-obese people, are more sedentary during the week and on the weekend, and are less likely to use stairs or walk up escalators. Doing exercise can be predicted by beliefs and the environment. Research indicates that people exercise because they find it fun, for social contact, due to higher levels of self-efficacy to be healthy, because they have easier access to parks, cycle paths, or exercise facilities, and because it easily fits into their daily lives.

Obesity is, therefore, caused by a combination of genetics, the environment, and

psychological factors. This fits in with the biopsychosocial model and an integrated approach to understanding chronic illnesses. It also illustrates the role of psychology at the start of the continuum from health to illness.

**Treatment**

There are currently three key ways to treat obesity: behavior modification, medication, and surgery. These all illustrate the role of psychological factors.

**Behavior Modification**: Weight loss requires changes in eating behavior and physical activity. Research indicates that behavioral interventions targeting behavior change using a range of behavior change strategies such a cognitive restructuring, self-monitoring, reinforcement, and peer pressure can result in an average weight loss of 2.46 kg by one year (NICE, 2013). Most studies, however, indicate that the majority (up to 95%) show weight

regain by 5 years (Foresight, 2007). Many interventions also include exercise, which has a positive impact on health regardless of body weight. Adding exercise to dieting has only a modest impact on weight loss. However, research indicates that increases in physical activity have a significant impact on longer-term weight loss maintenance.

**Medication:** Obesity medication is only legally available to patients with a BMI of 30 or more. There are two groups of anti-obesity drugs which are offered in conjunction with dietary and exercise programs: appetite suppressants and those that reduce fat absorption.

There is some evidence for the effectiveness of appetite suppressants but they cause side-effects such as nausea, dry mouth, and constipation. At present no appetite suppressants are legally available in many countries due to their side effects. Those drugs which reduce fat absorption can cause weight loss in obese subjects, but are also accompanied by unpleasant side effects, including an urgent need to go to the toilet, and anal leakage, which are particularly apparent following a high-fat meal. Medication also shows a role for

psychology because it seems that these unpleasant side effects encourage people to make the link between the food they eat which contains fat and the fat they see leave their body.

This changes their illness beliefs which sometimes can lead to a change in their eating behavior.

**Surgery:** The final approach to treating obesity is surgery and evidence indicates that surgery can be effective for both weight loss and maintenance and brings with it a reduction in the risk factors for heart disease. Surgery also highlights a role for psychological factors.

For example, many patients post-surgery report improvements in well-being, a reduction in hunger and their preoccupation with food, increased Quality of Life, and a greater sense of control. For some patients, however, there remains the problem of weight regain over time and a minority report problems with binge eating, grazing, and body dissatisfaction due to excess skin.

Over the past 30 years, there has been a dramatic increase in the number of adults and children who are obese, which can cause both psychological and physical health problems.

Obesity is a product of genetics, an obesogenic environment, and two key behaviors: eating and physical activity. In terms of treatments, the most common approaches are dieting and exercise although many adults now are turning to medication or surgery. Obesity highlights the role of psychology from illness onset through to treatment and health outcomes.

# 15.Coronary Heart Disease (CHD)

CHD is another example of chronic illness which shows a strong role for a range of psychological factors. This section examines what coronary heart disease is, risk factors for CHD and the predictors of patient health outcomes.

**What is CHD?**

The term “coronary heart disease” (CHD) refers to a disease of the heart involving coronary arteries which are not functioning properly. The most important diseases are angina, acute myocardial infarction (heart attack) and sudden cardiac death. All these forms of CHD are caused by atherosclerosis which involves a narrowing of the arteries due to fatty deposits which obstruct the flow of blood.

**15.1.Risk factors for CHD**

Many risk factors for CHD have been identified such as educational status, social mobility, social class, age, gender, stress reactivity, family history, ethnicity, smoking, diet, obesity, sedentary lifestyle, perceived work stress, and personality. Key modifiable risk factors are asfollows and have been discussed in previous units:

**Smoking.** One in four deaths from CHD is thought to be caused by smoking. Smoking more

than 20 cigarettes a day increases the risk of CHD in middle age threefold. In addition, stopping smoking can halve the risk of another heart attack in those who have already had one.

**Diet.** Diet, in particular, cholesterol levels, has also been implicated in CHD. It has been suggested that the 20 percent of a population with the highest cholesterol levels are three times more likely to die of heart disease than the 20 percent with the lowest levels.

**High blood pressure**. High blood pressure is also a risk factor for CHD – the higher the blood pressure, the greater the risk. It has been suggested that a 10 mmHg decrease in a population’s average blood pressure could reduce the mortality attributable to heart disease by 30 percent. Blood pressure appears to be related to a multitude of factors such as genetics, obesity, alcohol intake, and salt consumption.

**Type A behavior and hostility.** Type A behavior and its associated characteristic, hostility, is probably the most extensively studied risk factor for CHD

**Stress.** Stress has also been studied extensively as a predictor of CHD and research has shown links between stress and CHD, life events and CHD, and job stress and CHD. Stress management is used to reduce stress in people already diagnosed with CHD.

CHD is, therefore, caused by a number of modifiable factors. These are often linked to an individual’s beliefs and behaviors and can be changed using a number of behavior change strategies .

## 15.2.Predicting Patient Health Outcomes

Research has also explored the role of psychological factors in predicting patient healthoutcomes following CHD with a focus on Quality of Life and mortality.

**Predicting Quality of Life**

Research exploring the predictors of Quality of Life in patients with CHD has focused on perceptions of control, depression, social support, and illness beliefs.

**Perceptions of Control**: Research shows a consistent link between baseline levels of perceived control and recovery from stroke in terms of level of functioning.

**Depression:** Depression post-heart attack is quite common. Although for many patients levels of depressive symptoms reduce over time, research indicates a link between depression at baseline and health-related Quality of Life by 4 months follow up.

**Social support:** Research also shows a role for social support in predicting patient Quality of Life post-heart attack, although perceived rather than actual support is more important. Not all social support is positive, however, and “over protection” can result in decreased levels of physical functioning over time.

**Illness beliefs:** Research also shows a role for illness beliefs in predicting recovery from heart attack and Quality of Life as measured by return to work and general social and occupational functioning.

**Predicting Mortality**

Research has also explored the predictors of survival or mortality in patients with CHD.

There are many biological predictors including cholesterol levels, blood pressure, previous heart attacks, long-term health history, and a number of biological markers. The results also, however, show a role for psychological factors such as health-related behaviors and depression.

**Health Behaviors:** Research indicates that the behaviors which predict CHD onset also predict mortality. In addition, other health conditions which are also related to health-related behaviors, also predict CHD mortality. For example, large-scale cohort studies and systematic reviews indicate that mortality post-heart attack or stroke is predicted by smoking, obesity, and diabetes.

**Depression:** Research indicates that depression post-heart attack and stroke is common and can relate to an individual’s subsequent Quality of Life. Research, however, also indicates that depression predicts mortality.

**In Summary**

CHD is a common cause of death and illustrates the role of psychology in illness in terms of the risk factors for its onset and the predictors of Quality of Life and mortality.

**15.3.Cancer**

Cancer is another chronic illness which illustrates a clear role for psychology. This section examines what cancer is and then assesses the role of psychology in understanding cancer in terms of the initiation and promotion of cancer and dealing with the symptoms of cancer.

**What is Cancer?**

Cancer is defined as an uncontrolled growth of abnormal cells, which produces tumors called neoplasms. There are two types of tumor: benign tumors, which do not spread throughout the body, and malignant tumors, which show metastasis (the process of cells breaking off from the tumor and moving elsewhere). There are three types of cancer cell: carcinomas, which constitute 90 percent of all cancer cells and which originate in tissue cells; sarcomas, which originate in connective tissue; and leukemias, which originate in the blood.

## 15.4.The Psychological Factors in the Initiation and Promotion of Cancer

Psychology plays a role in the initiation and promotion of cancer as follows: **Behavioral factors**. Up to 75% of all cancers are linked to behaviors such as smoking, poor diet, alcohol, and sexual behavior which can be predicted by examining individual health beliefs and modified using behavior change interventions . In addition, help-seeking behavior and symptom perception all influence early detection which may influence health

outcomes .

**Stress.** Stress has also been shown to have a role to play in cancer particularly if the stressor is perceived as uncontrollable . This may be through the direct pathway (i.e. a change in physiology) or the indirect pathway (i.e. a change in behavior).

**Control.** Control also seems to play a role in the initiation and promotion of cancer and it has been argued that lack of control over stressors and environmental factors may be related to an increase in the onset of cancer.

**Coping styles**. Coping styles are also important. If an individual is subjected to stress, then the methods they use to cope with this stress may well be related to the onset of cancer. For example, maladaptive, disengagement coping strategies, such as smoking and alcohol, may be related to an increase in cancer.

**Depression.** There is some evidence that chronic mild depression, but not clinical depression, may be related to cancer. Again this may be due to changes in behavior.

**Hardiness.** Kobasa et al. (1982) described a coping style called “hardiness”, which has three components: control, commitment, and challenge. Feelings of control are the opposite of a tendency to show feelings of helplessness in the face of stress. Commitment is defined as the opposite of alienation: individuals high in commitment find meaning in their work, values, and personal relationships. Individuals high in challenge regard potentially stressful events as a challenge to be met with expected success. Hardiness may be protective from developing cancer.

and personal relationships. Individuals high in challenge regard potentially stressful events as a challenge to be met with expected success. Hardiness may be protective from developing cancer.

## 15.5.Psychology and the alleviation of symptoms

Psychology also has a role to play in the alleviation of symptoms of cancer and its treatment, and in promoting Quality of Life. Cancer sufferers can experience pain, breathing difficulties, vomiting, sleeplessness, loss of bowel and bladder control, loss of appetite, and mental confusion as a result of both the cancer itself and the treatment they undergo. Psychosocial interventions have, therefore, been used to attempt to alleviate some of the symptoms of the cancer sufferer and to improve their Quality of Life:

**Pain management.** One of the main roles of psychology is in terms of pain management, and this has taken place through a variety of different pain management techniques including relaxation, biofeedback, positive imagery, distraction, and hypnosis .

**Social support interventions.** Social support interventions have also been used through the provision of support groups, which emphasize control and meaningful activities and aim to reduce denial and promote hope. It has been suggested that although this intervention may not have any effect on longevity, it may improve the meaningfulness of the cancer patient’s life.

**Treating nausea and vomiting**. Psychology has also been involved in treating the nausea and vomiting experienced by cancer patients. Cancer patients are often offered chemotherapy as a treatment for their cancer, which can cause anticipatory nausea, vomiting, and anxiety.

Respondent conditioning and visual imagery, relaxation, hypnosis, and desensitization have been shown to decrease nausea and anxiety in cancer patients.

**Body image counseling.** The Quality of Life of cancer patients may also be improved through body image counseling, particularly following the loss of a breast and, more generally, in dealing with the grief at the loss of various parts of the body.

**Cognitive adaptation strategies.** Research also suggests that Quality of Life may also be improved using cognitive adaptation strategies to improve patients’ self-worth, their ability to be close to others, and improvement in the meaningfulness of their lives.

**Fear reduction:** Many patients experience enduring fear that their cancer will return which can impact their adjustment and ability to plan for the future. Some interventions target fears, inappropriate checking behavior, and beliefs about cancer, and are based on Leventhal’s self-regulatory model .

Cancer is, therefore, a life-threatening chronic illness and highlights the role of psychology in terms of its onset and the ways in which people can deal with the symptoms of cancer and the side effects of any treatments they have.

**Then**

This unit has focused on obesity, CHD, and cancer which illustrate the role of psychology in chronic illnesses in terms of the factors that trigger or promote illness, the ways people experience their illness, their experiences of symptoms and the factors involved in promoting

Quality of Life and longevity. These factors, however, are also relevant to all other chronic illnesses such as HIV / AIDS, diabetes, arthritis, Multiple Sclerosis, asthma and so on which similarly have a role for psychology along the continuum from health to illness.

Furthermore, many of these psychological issues are also relevant to more acute illnesses such as coughs, colds, flu, and infections because all health problems have causes, symptoms, and consequences, all of which have a psychological component.

# 16.General conclusion

It has long been recognized that physical illness can have psychological consequences. This

course has highlighted how psychology is relevant to all stages of illness from being well, to becoming ill, to being ill, and to health outcomes. Health psychology has a simple STORY which is often similar for different areas: “traditional models say health and illness are about knowledge and biology BUT health psychology says it is also about psychology”. So in terms of the areas covered on this course the stories are:

• Health and illness relate to behavior not just biology

• Behavior relates not only to knowledge but also to beliefs

• Behavior can be changed by changing beliefs

• People also have beliefs about illness which influence their illness experience

• Illness beliefs influence help-seeking behavior

• The consultation is influenced by the patient’s and the health professional’s beliefs

• The response to a stressor is influenced by appraisal

• Stress causes illness through biological changes and behavior change.

• Psychology is involved at all stages of chronic illness

• Gender differences in health and illness can be explained by beliefs and behavior as

well as biology

• It is key to assess subjective health outcomes such as Quality of Life as well as

more objective health outcomes such as mortality and illness severity

# 17. REFERENCES

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