

CHAPTER ONE

ORIENTATION, MOTIVATION AND AIMS

ORIENTATION

By the end of the nineteenth century the predominant approach to medicine was to focus mainly on the disease and on its identifiable physical causes. The dominant paradigm of medical science in the twentieth century is called the biomedical model (Engel, 1980; Sheridan & Radmacher, 1992). Within this approach, healthy people became manifestations of healthy cellular activity, while ill people become manifestations of dysfunctional cellular activity (Cooper, Stevenson & Hale, 1996). The patient becomes a problem to be solved, and the solution to that problem lies in adopting a mechanistic, scientific approach that precludes any consideration of behavioural, social or psychological influences.

Engel (1980) states that the biomedical model neglects the whole because it excludes everything but biological factors. Thus it is preoccupied with the body and disease at the expense of the patient as a person. However, the rise of the biomedical model has had many advantages for mankind as this led to the development of a number of specific physical treatments for disease, such as the many medications used today, vaccines to protect against viral diseases, new medical technology such as x-ray machines and other new imaging devices and new surgical procedures. These developments have been responsible for some of the greatest medical advances and many potentially life threatening diseases have been successfully treated.

On the other hand the biopsychosocial model includes the patient as well as the illness (Engel, 1977), and this would make it possible to explain why some individuals experience illness differently to others. McDaniel, Hepworth and Doherty (1995) emphasize that close attention needs to be placed on the medical illness *and* the role the illness plays in the emotional life of the patient, *and* the interpersonal dynamics of the family. To some illness may be simply a “problem of living”; while to others the illness becomes a living problem, something that is all encompassing. This is particularly true in case of the irritable bowel syndrome (IBS) where the “mind and body often combine to increase the misery of IBS” (Heaton & Thompson, 1999, p.54).

It is this shift from seeing illness and disease purely from a medical cause and effect to seeing disease and illness in terms of a more holistic paradigm that has led to a new and different investigation of IBS. A biopsychosocial model of IBS involving physiological, emotional, cognitive and behavioural factors is felt to be involved in symptom generation. Drossman (1983, p.489) states “Patients come to Doctors with problems that are multidetermined, complex and interrelated. As clinicians and investigators we must expand our focus from the mechanisms of disease to the person within the context of biologic and behavioural influences on the organism. For patients with IBS, this type of approach does not diminish the need for understanding pathophysiology; instead, it reorients this knowledge into a framework that makes our patients’ illness far more understandable”.

IBS is a disorder of the large bowel characterized by abdominal pain and changes in bowel habit in the absence of organic disease (Broome & Llewelyn, 1995; Varis, 1987). The causes of IBS are largely unknown, and there is no treatment that is lastingly effective. Irritable Bowel Syndrome is also known by terms such as “nervous stomach”, “nervous colon syndrome”, “spastic colon”, or “spastic colitis”. It is characterized by abdominal pain, bloating, mucous in stools and irregular bowel habits, including alternating constipation and diarrhoea. It is most probably the most common disorder encountered by gastroenterologists in the industrialized world (Farthing, 1995), and it is probably one of the least understood. According to Heaton and Thompson (1999), IBS is the most common cause of gut symptoms in the community and the most common reason that people go to their general practitioner with a gut complaint.

MOTIVATION FOR THE PRESENT STUDY

General motivation

The general motivation for this study comes from the fact, that despite the advantages of the biopsychosocial approach, the field of functional gastrointestinal disorders remains poorly understood. Patients often move from one doctor to another in order to receive some relief from these unremitting and unrelenting disorders. It is possible that this may lead them to become “locked” into a relentless cycle of health care-utilization, without getting much hope of improvement. As these

disorders, specifically IBS are so prevalent, it was felt that if more was learnt about them, and the underlying mechanisms were better understood, it would contribute to the development of more appropriate and effective treatment strategies. It appears that these strategies need to involve the whole person, and sometimes even the family and the community. Once it is understood how to effectively deal with these disorders, it follows that they will impact favourably on health-care utilization, and on the overall quality of life of these patients.

Specific motivation

Past sexual and physical abuse has been strongly associated with functional bowel disease in women (Drossman et al., in Weber & McCallum, 1992). In one of the first studies to document the high prevalence of sexual and physical abuse among female patients in a gastroenterology clinic, Drossman, Leserman, Nachman, Li, Gluck, Toomey and Mitchell (1990) administered a self-report questionnaire to 206 patients in a university gastroenterology clinic, where they found that 44% reported a history of sexual or physical trauma in childhood or later life. Since then there have been a number of other studies that have sought to further study this phenomenon.

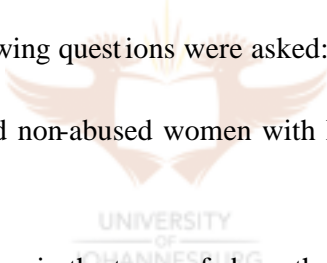
Patients with functional bowel disorders were more likely to report histories of physical or sexual trauma than those patients with organic disorders (Walker, Katon, Roy-Byrne, Jemelka & Russo, 1993). In this study, they found that all of the patients who had experienced severe sexual trauma had IBS.

Only one population-based study has been reported (Talley, Fett, Zinsmeister & Melton, 1994). A self-report questionnaire that included questions about abuse was mailed to a random sample of 919 people in Minnesota. Twenty-six percent of the population reported some form of abuse in the past, and most (22%) in this sample reported sexual abuse. Sexual abuse history was also associated with functional gastrointestinal symptoms. When compared with a non-abused sample, those who had been sexually, emotionally or verbally abused as children or adults were 1,9 times more likely to develop a functional gastrointestinal disorder. Those who reported abuse in adulthood and childhood were about three times as likely to have IBS.

Some family cultures lack any language for emotional experience (McDaniel et al., 1995). The adults may allow only language about physical experience. Children in these families receive care for physical pain but not for emotional pain. This approach conditions children to experience any need or problem as physical, and physical symptoms become their language for a range of experiences. There may thus be a link between severe somatizing behaviour and early deprivation, trauma, physical or sexual abuse.

From the aforementioned research carried out in the United States of America the findings are that there was a significant association between IBS and sexual, emotional and verbal abuse, and physical abuse in childhood and adulthood (Drossman et al., 1990; Talley et al., 1994). However research regarding IBS and abuse in South Africa is alarmingly lacking and leads to the question whether the significant association between IBS and earlier sexual, emotional and physical abuse in women would be present in this country.

For the present study the following questions were asked:

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- Do abused women and non-abused women with IBS suffer from different sub-types of IBS?
 - Are there any differences in the types of abuse that IBS sufferers were subjected to when compared to abused subjects who had no IBS?
 - Do abused versus non-abused IBS sufferers and abused versus non-abused non-IBS sufferers, differ from each other in terms of how anxious they feel and act, and in terms of how much anger they feel?

Aims of the present study

There are two types of aims relating to this study, the first being the general aims, the focus of which concerns the first part of this dissertation, namely an integrative study of IBS and of abuse. The second is the specific aim which concerns the links between IBS and abuse.

It is hoped that the present study will lead to a greater understanding of the effects of abuse against women and children, that it will also highlight issues of aggression

against women and children and that it will enable abused women to realize that they have a voice, and that someone is listening.

General Aims

From a general viewpoint all psychological research is aimed at improving knowledge and understanding of human beings and their behaviour. In order for this to occur it is important that any investigation should focus on such new information and theories which add their value to the current research. This should be done with respect to the existing constructs and body of knowledge and should build up a new and more fully inclusive body of knowledge than existed before the particular research was carried out.

The present research project forms part of a larger and broader research project initiated in 1996 by the Counselling and Research Centre for Psychogastroenterology of the Rand Afrikaans University in Johannesburg, South Africa. The emphasis of this project is on improving the understanding of the association between psychology and physiology, particularly as this is manifested in Irritable Bowel Syndrome. The project aimed to enable both the public and the medical profession gain a deeper understanding of IBS, and ultimately provide sufferers with an opportunity to develop more effective coping strategies in the management of IBS.

The general aims of the present dissertation is to summarize the diverse, and sometimes conflicting research findings with respect to IBS and abuse, in order to arrive at a more integrative study of IBS and abuse, and thus to add to the existing body of knowledge.

1.3.2 Specific Aims of the Study

The present study aims to assess the links between IBS and abuse. This will be done by comparing four groups of women. The four groups are:

- Women who have been abused, and who suffer from IBS (Group 1)**
- Women who have been abused, and who do not suffer from IBS (Group 2)**
- Women who have not been abused, and who do not suffer from IBS (Group 3)**
- Women who have not been abused, and who do suffer from IBS (Group 4).**

Groups 1 and 4 will be compared regarding the three sub-types of IBS, namely, pain predominant IBS, IBS with diarrhoea and/or constipation, and IBS with bloating. Groups 1 and 2 will be compared with regard to the various types of abuse, namely, physical, emotional and sexual abuse, as measured by the Abuse Questionnaire. The four groups will also be compared with regard to state-anxiety and trait anxiety; as well as state-anger, trait-anger, angry temperament, angry reaction, anger-in, anger-out and anger control.

The operationalized research aims are to ascertain:

- **If there are statistically significant differences between Group 1 (abused women with IBS) and Group 4 (non-abused women with IBS) regarding the three sub-types of IBS (pain predominant IBS, IBS with diarrhoea/constipation, IBS with bloating) measured by means of the Irritable Bowel Syndrome Checklist.**
- **If there are statistically significant differences between Group 1 (abused women with IBS) versus Group 2 (abused women without IBS) regarding the three types of Abuse (emotional abuse, physical abuse, sexual abuse) measured by means of the Abuse Questionnaire (Rossouw, 1998).**
- **If there are statistically significant differences between Group 1 (abused women with IBS) versus Group 2 (abused women without IBS) versus Group 3 (non-abused women without IBS) versus Group 4 (non-abused women with IBS) regarding anxiety and anger as measured by means of the nine subscales of the State-Trait Anxiety Inventory (STAI) and the State-Trait Anger Expression Inventory (STAXI).**

Terminology

“Functional Gastrointestinal disorders”, “Irritable Bowel Syndrome”, “Sexual Abuse”, “Physical Abuse” and “Emotional Abuse” are key concepts in the present study. Each concept is defined and reviewed in later chapters, but a brief description will be given below by way of introduction.

Functional Gastrointestinal Disorders

The symptoms appear to result from a dysfunction of the intestine and are therefore said to be “functional” (Heaton & Thompson, 1999). There is no structural lesion causing the symptoms, that when found to be present, clinches the diagnosis. While the patient’s gut is clearly malfunctioning, there is no test that may assist the doctor in making the diagnosis, nor current technology that can precisely measure the abnormality (Heaton & Thompson, 1999).

Irritable Bowel Syndrome (IBS)

Irritable Bowel Syndrome is defined as a chronic relapsing functional bowel disorder of unknown causes (Weber & McCallum, 1992). IBS is characterized by attacks of abdominal pain and change of bowel habit resulting in diarrhoea, constipation or both, where no structural alteration of the colon is found (Varis, 1987). IBS is a constellation of symptoms, which consists of abdominal pain, altered bowel habit, and other symptoms such as abdominal bloating, a feeling of incomplete evacuation and mucus in the stools. The bowel habit is typically chaotic – intermittent constipation and diarrhoea, sometimes both in the same day.

IBS represents one of the commonest diagnoses made by Gastroenterologists (Talley, Fett & Zinmeister, 1995). It is maintained (Enck & Wienbeck, 1993) that up to 70% of patients consulting a Gastroenterologist suffer from Irritable Bowel Syndrome.

Sexual Abuse

Sexual abuse of adult women usually takes the form of forcing the victim to take part in sexual activities against her will, this may also include the use of force or sadism and torture. Much of adult sexual abuse, even in marriage relationships may be classified as rape or attempted rape.

According to La Fontaine (1990, p.41) ‘sexual abuse’ refers to “bodily contact of all sorts: fondling, genital stimulation, oral and/or anal intercourse as well as vaginal

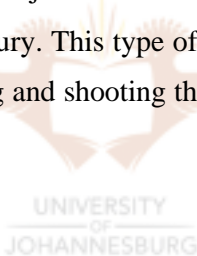
intercourse”. She remarks that some people may extend the meaning to include suggestive behaviour, sexual innuendo and exhibitionism. When applied to children, this definition focuses on two main features: it is an adult activity and it involves a child as victim, also, the definitions of offender and victim depend on their ages and not on their relationship.

Physical Abuse

Wolfe (1999, p.8) defines child physical abuse as “the infliction or endangerment of physical injury as a result of punching, beating, kicking, biting, burning, shaking or otherwise harming a child. The injuries are seldom intentional, but nonetheless, the use of physical punishment and harsh disciplinary tactics can result in child injuries.” Thus physical abuse is considered to be any deliberate physical assault on an individual’s body that harms the recipient in any way. These injuries may be as a result of a single incident, or a pattern of injuries to a child that is non-accidental. It may, or may not involve visible signs of injury. This type of abuse may include kicking, hitting, slapping, choking, burning, stabbing and shooting the victim.

Emotional Abuse

Emotional abuse is a type of abuse that is enacted at a purely emotional level such as verbal insults and emotional deprivation. It is considered to be any act associated with psychological, spiritual and other forms of abuse that relate to an individual’s sense of integrity, freedom of expression and well-being (Hartman, 1995). Emotional abuse includes acts such as withholding affection, verbal attacks, constant belittling and controlling behaviour, as well as insulting behaviour, such as calling someone names such as stupid or crazy. It also includes threats to the victim, as well as to her family members, pets and belongings. Wolfe (1999) is of the opinion that emotional abuse exists to some degree in all forms of maltreatment, and thus the specific psychological consequences are poorly understood. Loring (1997) describes emotional abuse as continuous, interspersed with some warmth and kindness.



Overview of the proposed study

The orientation of the present study is discussed in Chapter 1 together with an outline of the motivation for the study, as well as the aims of the research project. Chapters 2,3 and 4 present the theoretical foundations for the study. Chapter 2 investigates the different models of health and illness and then leads on to an examination of IBS. Chapter 3 focuses on the investigation of abuse in women and children, while Chapter 5 examines the key elements of the research already conducted into the association between IBS and abuse. In Chapter 4 a vignette is presented of a woman who has suffered much abuse. The researcher, in order to take the issue of abuse out of the academic realm, and to place it into a more understandable and practical domain has included this story of abuse. In Chapter 6 a detailed analysis of the empirical investigation is presented, including an in-depth description of the four Groups of women in the total sample. In this chapter the methods of collecting information and the selection and measuring instruments used are presented and discussed. Chapter 7 consists of the statistical data, primarily presented in tabular form. These results are discussed in Chapter 8 and the study is evaluated and recommendations for future research are highlighted.

CHAPTER TWO

IRRITABLE BOWEL SYNDROME, HEALTH AND ILLNESS

“Most of the time we think we’re sick, it’s all in the mind.”

Thomas Wolfe, (1929, in Martin, 1997, p.1)

IBS is an uncertainly defined complex of gastrointestinal symptoms representing a significant proportion of all medical referrals from the general population (Sammons & Karoly, 1987). There does not appear to be any one cause in IBS, instead a holistic perspective is needed to more fully understand this multifaceted syndrome. Early in history, the body was seen as one with nature, being influenced and influencing the world around us. But this changed, as the biomedical model became the preferred model for the understanding of health and illness. The body was seen as a separate entity, far removed from the forces of nature. The body was studied in isolation, and it was considered only in terms of its biology, with biological cause and effect. Over the last few decades and as the close of the century approached, cause and effect have been seen as much more than just a linear relationship, and health and illness are no longer seen in isolation. There has been a broadening of the concept of disease and a growing awareness that illness is not just located in the physical dimension, but that it is a complex, multicausal process that involves all the many domains of the whole person operating in context over time (Stuart, Pretorius, Stanley, Rossouw, Dolan, Nel & Bush, 1999).

It is not known why the functional responses of the gastrointestinal tract cause symptoms only in some people. This chapter will attempt to answer this question by examining models of health and illness that may explain this. The chapter follows with a description of the digestive system, followed by the definition, incidence and cause of IBS. Thereafter IBS and the relation of the syndrome to pain will be discussed and the psychological factors that play a role in IBS will be explicated.

Historical Orientation: Mind versus Body

The link between the body and emotions seems to have been made by the English language much earlier than the medical and caring professions discovered that same link. One speaks of having “butterflies in my stomach” when feeling excited or afraid. Extreme dislike may be expressed as “hating his guts”. People talk about being “worried sick” about something.

Emotions have been implicated in health and illness as it has been observed that negative emotions have been associated with migraine, hypertension, ulcer, irritable bowel, and other diseases including cancer. Bakal (1992) contends that we do not know whether the emotional processes contribute to the onset of such disorders or, instead, are the consequences of having such disorders.

Contemporary attitudes towards the relationships between the mind, the body and disease are fairly confused. On the one hand there is the fairly uncritical acceptance by the public, the popular media and the followers of New Age medicine that the mind is both the source and the remedy for the majority of bodily ills. Our society has largely come to believe in the healing power of the mind, in the control of health not just through behaviour, but also through attitude, thought and emotion (Bakal, 1992). On the other hand is found the sceptics who either dismiss the connection between psychological factors and physical disease as pseudo-scientific thinking, or else they simply ignore them all together.

The conviction that psychological factors play a part in causing or curing bodily diseases is an ancient one. Throughout history people have held deep-seated beliefs in the power of the mind to influence physical health, and down the centuries (until recent times) physicians have explicitly linked physical well-being with mental health. Thus it should come as no great surprise that a major emotional upset such as a divorce, bereavement, depression or abuse later manifests itself in physical form.

In ancient times healers worked on the pragmatic basis that body and mind are intertwined. Physical disorders could stem from problems in the mind and mental

disorders could be reflections of bodily disease. The belief in a close connection between physical health and the mental state of a person has a decidedly rocky history in Western medicine, despite its promising beginnings in the ancient civilizations of Greece and China (Martin, 1997).

Early on the dominant force in medicine was the cult of Aesculapius (Prokop, Bradley, Burish, Anderson & Fox, 1991). He was thought by some to be a mortal while others thought that he was the son of the god of medicine, Apollo. In this cult's temples healing was accomplished through ceremonies and fasting and was often guided by the patient's dreams. History suggests that Hippocrates was a major force in the development of an alternative approach to the practice of medicine and the understanding of human behaviour. Hippocrates, who was born in about 460 BC, sought to explain the workings of the human body in essentially mechanistic terms rather than resorting to the notion of evil spirits and gods who caused illness. He rejected the notion that spiritual or supernatural agents that disturbed the body's harmony caused illness. As far as he was concerned, natural forces that could be studied and explained caused illness and disease. Hippocrates and his followers were thus able to make considerable progress in understanding and treating real illnesses and to find remedies for some of these maladies. Greek medicine had reached its zenith by the second century AD (Martin, 1997). At this time the foremost medical authority in the Western world was the Greek physician Galen. He made a number of significant medical advances, including establishing the use of the pulse as an aid to diagnosis. To Galen and his disciples, diseases were abnormal physical conditions of a physical body and not problems of the soul, or punishments meted out by an angry god. Thus the focus was exclusively on the physical body and little attention was paid to anything else.

This approach continued when in 1637 René Descartes presented a philosophical position that clearly separated mind from body (Bakal, 1992). Known as Cartesian Dualism, the thinking mind became separate from the body and the ancient concept of holism was relegated to the back burner, in Western civilization at any rate. According to Cassel (1982) this made it possible for science to escape the stranglehold of the church by assigning the noncorporeal, spiritual realm to the church, while leaving the physical world to the domain of science.

By the end of the nineteenth century the predominant approach to medicine was to focus mainly on the disease and on its identifiable physical causes, such as bacteria. The field of laboratory science and the establishment of germ theory began to exert an influence on the understanding and treatment of disease; in particular, providing a context within which disease could be understood (Cooper et al., 1996). Medical research could get to grips with such an overwhelmingly physical proof of ill health, but the thoughts and emotions that accompanied the patient were all together much too ethereal. “The patient’s mental state increasingly came to be seen as an embarrassing irrelevance – the province of psychologists....” (Martin, 1997, p.9).

There were however, exceptions to this type of thinking. In 1884 Daniel Hack Tuke, a pioneer of British psychiatry published a work entitled *Illustrations of the Influence of the Mind upon the Body in Health and Disease, Designed to Elucidate the Action of the Imagination*. In it he argued that the body and the mind are intimately linked through physiological processes, that our mental state affects our physical health and visa versa (Martin, 1997).

It seems that the wheel may have turned full circle as the medical fraternity in these closing years of the twentieth century and the beginning years of the new millennium, seeks to find “cures” for chronic diseases linked to stress. It seems that many health practitioners have come to the realization that many of these chronic degenerative diseases may be controlled by a lifestyle change that involves physical as well as mental health factors. Recently medical aid societies have also come to this conclusion as many offer members incentives for healthy lifestyle changes such as membership of exercise and weight reduction programs.

It seems more and more that our mental state and physical health are intertwined. It may be that stress, depression, anxiety and other psychological factors affect our vulnerability to many diseases including cancer, bacterial and viral infections as well as heart disease and diseases of the gut. Good health is simply more than the absence of disease. The following section attempts to investigate two models of health and illness.

Models of Health and Illness

In this section the biomedical and biopsychosocial models are described and a brief history is given of each. The challenge to the biomedical model and the resistance that challenge is facing are also discussed.

The Biomedical Model

“It is time to acknowledge that our belief in disease as a direct reflection of mental state is largely folklore.”

(in Martin, 1997, p.1)

The dominant paradigm of medical science in the twentieth century is called the biomedical model (Engel, 1980; Sheridan & Radmacher, 1992). Within the biomedical approach, healthy people became manifestations of healthy cellular activity, while ill people become manifestations of dysfunctional cellular activity (Cooper et al., 1996). The body is seen in terms of a machine that may be fixed by removing or replacing the ailing part, or by destroying the foreign body that is causing the illness. The patient becomes a problem to be solved, and the solution to that problem lies in adopting a mechanistic, scientific approach that precludes any consideration of behavioural, social or psychological influences.

The rise of the biomedical model has had many advantages for mankind as this led to the development of a number of specific physical treatments for disease, such as the many medications used today, vaccines to protect against viral diseases, new medical technology such as x-ray machines and other new imaging devices and new surgical procedures. These developments have been responsible for some of the greatest advances and many potentially life threatening diseases have been successfully treated.

As practitioners became more and more estranged from the people they were meant to be serving, by making use of a model that does not include the patient and their attributes as a human being (Engel, 1980), a challenge to this paradigm began to emerge. Traditional psychosomatic medicine developed in the 1930's as a special

branch of medicine because a small group of physicians were dissatisfied with attempts to explain patients' symptoms solely in biomedical terms (Bakal, 1992). These physicians were struck by how often their patients seemed to be troubled by negative thoughts and feelings, both at conscious and unconscious levels.

The Biopsychosocial Model

An alternative approach to the biomedical model was proposed by Engel (Bernard & Krupat, 1994; Cooper et al., 1996; Sheridan & Radmacher, 1992). This was in order to address and reflect the emergent complexity and multiplicity of understandings of health and illness that came to the fore during the seventies through the inclusion of biological, social and psychological factors into what he termed the biopsychosocial model. Engel summarized this growing sense of unease with the biomedical model when he stated “ we are now faced with the necessity and the challenge to broaden the approach to disease to include the psycho-social without sacrificing the enormous advantages of the biomedical approximate” (Engel, 1977, p.130). He emphasized the great benefits derived from the simultaneous inclusion of the biological, social and psychological factors.

Sheridan and Radmacher (1992) suggest that including psychosocial factors in the model provides for a treatment approach that takes into account the human qualities of both patient and clinician. It also provides the structure for taking the patient and their whole life history into account.

Engel (1980) states that the biomedical model neglects the whole because it excludes everything but biological factors. Thus it is preoccupied with the body and disease at the expense of the patient as a person. On the other hand the biopsychosocial model includes the patient as well as the illness (Engel, 1977), and this would make it possible to explain why some individuals experience illness differently to others. McDaniel et al., (1995) emphasize that close attention needs to be placed on the medical illness *and* the role the illness plays in the emotional life of the patient, *and* the interpersonal dynamics of the family. To some illness may be simply a “problem of living”; while to

others the illness becomes all encompassing, depending on the social support and the psychological factors involved.

Rather than a new approach, the biopsychosocial model is actually a return to holism which existed at the time of Hippocrates, the “father of medicine”. Health and illness are not only physical or mental; rather they are physical and mental (Bernard & Krupat, 1994). This is particularly true in the case of IBS where the “mind and body often combine to increase the misery of IBS” (Heaton & Thompson, 1999, p.54).

McDaniel et al. (1995) note that the idea that a physical symptom must have as its basis an organic cause, or that an emotional feeling is primarily determined by psychological experience, is widely accepted in society. But the idea that body and mind are an integrated, related, communicating whole has only recently and tentatively been considered by mainstream Western society. They maintain the complex disorder of somatization symbolizes our western culture’s struggle to recognize the interdependence and integration of physical and emotional aspects of life.

Because it is holistic, the biopsychosocial model is more complex than the biomedical model. Many more factors must be taken into account in order to define health and treat illness, but this model probably represents reality better than the biomedical model’s forced separation of mind and body, mental and physical health.

A more recent formulation of Engel’s perspective is presented by McDaniel, Hepworth and Doherty, (1992, in McKenry, Julian & Gavazzi, 1995), who used the term *biopsychosocial systems model* to highlight the interactive nature of biological, psychological and social phenomena relevant to health and illness. Such phenomena, according to this model, are seen as not only existing in a hierarchical order, but also as having a consistent and reciprocal impact on one another. Here biological system factors are thought to exist in, and interact with, psychological system factors, both of which are hypothesized to exist in, and interact with, family and other social system factors. Thus the descriptions resulting within this framework are not only summative, but are rather multiplicative relationships. These are pictorially depicted in Figure 2.1.

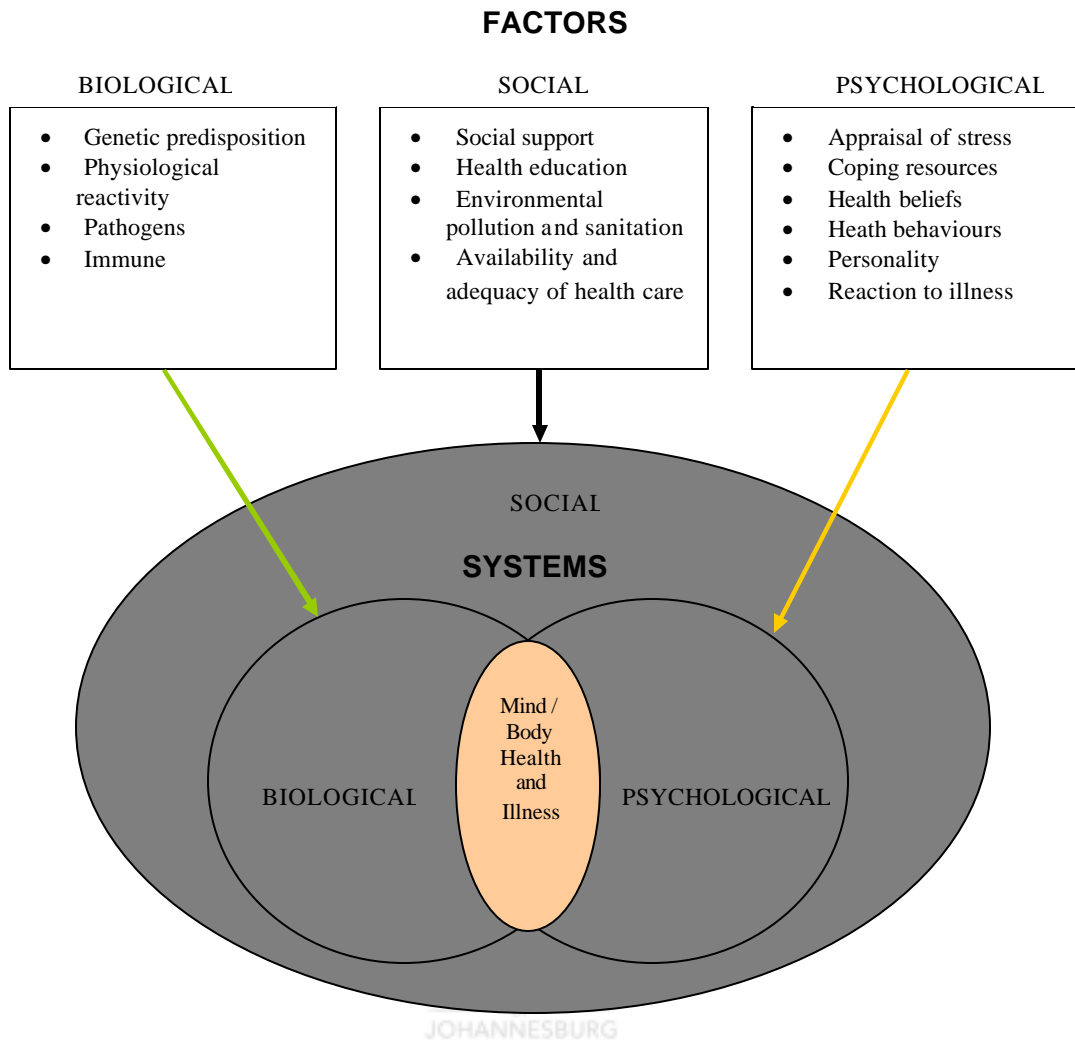


Figure 2.1 The Biopsychosocial Model from Two Perspectives: Factors and Systems (Bernard & Krupat, 1994)

Bakal (1992) is of the opinion that we have entered an era where the recognition of psychobiological factors is becoming as important as physical factors in the determination of health and illness. “Society’s awareness of the importance of mind-body relationships as “risk” factors in illness will continue to grow. We are witnessing an expansion of the revolution in health promotion to includealso the management of one’s psychobiology. How best to achieve this management is a challenge for the future. Ultimately, it may be achieved through a return to more fundamental values, resulting in a greater harmony of our mental, spiritual and physical selves” (Bakal, 1992, p.219).

Could IBS not really be a functional disorder at all, but could it even be sometimes organic, sometimes psychologically induced. Is it a disease at all, or is it, like tears, an exaggerated reaction to a person's physical or social environment? To come to a better understanding of IBS it will now be examined in more detail.

Irritable Bowel Syndrome (IBS): Physiological Factors

The irritable bowel syndrome (IBS) is a disorder of the large bowel characterized by abdominal pain and changes in bowel habit in the absence of organic disease (Broome & Llewelyn, 1995; Varis, 1987). Irritable Bowel Syndrome is also known by terms such as "nervous stomach", "nervous colon syndrome", "spastic colon", or "spastic colitis". It is characterized by abdominal pain, bloating, mucous in stools and irregular bowel habits, including alternating constipation and diarrhoea. It is most probably the most common disorder encountered by gastroenterologists in the industrialized world (Farthing, 1995). According to Heaton and Thompson (1999), IBS is the most common cause of gut symptoms in the community and the most common reason that people go to their general practitioner with a gut complaint.

Most people with the condition do not ever consult a doctor. The cause of IBS is unknown, its development is poorly understood and no universally agreed approach to treatment exists. IBS presents itself to the world in many guises, not only do symptoms vary between patients, but an individual's symptoms may also vary over time. It is therefore a challenge for doctors, patients and allied caregivers alike, and advances in treatment will probably not occur until the cause and development of the syndrome are better understood.

In order to more fully understand the syndrome, a historical overview is given so that the genesis of the disease may be more fully understood. An explanation on the structure and function of the large and small intestine is provided in order to gain some insight into the ways in which the digestive system may become disordered in IBS, and the definition and diagnosis of IBS are discussed.

Historical Overview

For centuries, both healers and historians have recognized that it is common for maladies to afflict the intestines, producing one or more of the following symptoms: pain, nausea, diarrhoea, constipation or difficult passage of faeces and food (Drossman, 1994). The first descriptions of patients with a history suggestive of IBS appeared in the mid-18th century (Prior, 1994). This condition was later given various names such as mucus colitis, membranous enteritis, nervous colon and spastic colon. Varis (1987) notes that it was first suggested over 100 years ago that there might be an association between certain personalities and IBS.

Christensen (1992, in Wilson, 1997) reports that the term Irritable Bowel Syndrome was first used in the 1940's to replace all previously existing names. In order to standardize the diagnosis, three essential steps were specified:

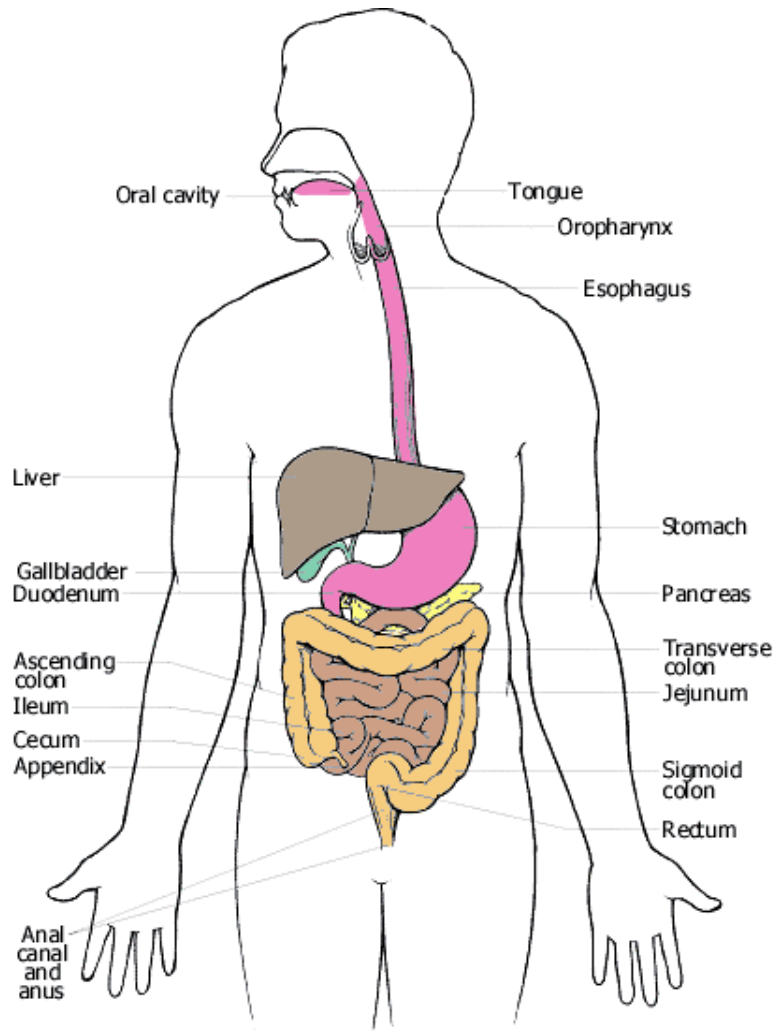
- identifying symptoms of colonic dysfunction
- excluding organic disease of the colon
- excluding extracolonic diseases capable of producing colonic symptoms.

The main complaint was mostly of abdominal cramps and/or pains. It was thought that the autonomic nervous system, food allergies as well as possible personality disorders all played a role in the genesis of the syndrome. There were however still many unanswered questions.

According to Heaton and Thompson (1999) the first systematic look at the syndrome was the classic 1965 paper by Chaudhary and Truelove entitled *The Irritable Colon*. It was in this study that the causes of the Irritable Colon Syndrome were thoroughly investigated, thereby setting the trend and standard for future research. We now know that more than just the colon is involved, hence the present label, the irritable bowel.

The Structure and Function of the Digestive System

As food passes through the digestive tract it is torn, battered and compacted by the stretching and contracting of the muscles lining the tract. Each region of the digestive system performs a different type of muscular movement. The regions are indicated in Figure 2.2.



**Figure 2.2 The Digestive System (American spelling used)
(The Hutchinson Multimedia Encyclopedia, 1997)**

Starting in the oesophagus, waves of muscular contraction move downward pushing food into the stomach by an action known as peristalsis. No digestion occurs here.

The stomach muscles then work like a pendulum that pushes food back and forth, bathing it in acidic digestive juices that break it into pieces about one millimetre in size. The stomach's functions are the mixing and digesting of food as well as the breakdown of protein.

Pendular contractions continue in the seven metre long small intestine, where most of the digestion and absorption of nutrients take place. The small intestine has three main functions:

- to digest food in it with enzymes secreted by its own glands and its accessory glands, the liver and the pancreas;
- selective absorption of water and the final products of digestion into the blood and lymph vessels;
- and continuing the passage of unabsorbed materials and gas along the tract.

If the food passes through too quickly not enough nutrients are absorbed. In between meals, peristaltic contractions occur every 90 to 120 minutes to sweep out any remaining food particles.

Thereafter the food passes through into the colon or large intestine that is mainly for storage. The colon wall absorbs water and salts and solidifies the contents into solid waste. Following a meal the colon will periodically contract at different points along its length. Contractions will occur 10 centimetres apart at timed intervals. It is these contractions that slow down the flow of waste, and keep it in contact with the bowel wall allowing water to be absorbed.

Movements of the colon (motility) propel the stool contents towards the rectum and then out of the anus during a bowel movement.

Colonic Peristalsis

A series of studies was conducted at the John Hopkins Bayview Medical Center (Hendricks, 1997) where volunteers wore pressure transducers that recorded the pressure of the muscles lining their colon and rectum. Recordings were made over a 24-hour period while volunteers went about their normal duties.

The researchers found that many IBS patients have disorganized and more vigorous contractions where the muscles tend to spasm. It seemed that there was a more prolonged contraction over a larger area. It was found that healthy volunteers had between six to eight peristaltic contractions in their colon within a 24 hour period, while IBS volunteers who tended to be constipated had almost none, and those who had diarrhoea had as many as 25 peristaltic contractions per day.

Definition of IBS

Irritable Bowel Syndrome is defined as a chronic relapsing functional bowel disorder of unknown causes (Weber & McCallum, 1992). IBS is characterized by attacks of abdominal pain and change of bowel habit resulting in diarrhoea, constipation or both, where no structural alteration of the colon is found (Varis, 1987). The symptoms appear to result from a dysfunction of the intestine and are therefore said to be “functional” (Heaton & Thompson, 1999). IBS is a constellation of symptoms, which consists of abdominal pain, altered bowel habit, and other symptoms such as abdominal bloating, a feeling of incomplete evacuation and mucus in the stools. The bowel habit is typically chaotic – intermittent constipation and diarrhoea, sometimes both in the same day.

Thompson (1984, in Sammons & Karoly, 1987) distinguishes five interrelated subgroups of IBS:

1. spastic colon (defined as abdominal pain related to constipation or diarrhoea)
2. constipation
3. diarrhoea
4. gas
5. chronic abdominal pain

Diagnosis of IBS

Irritable Bowel Syndrome is defined positively by its clinical presentation and negatively by excluding other likely diagnoses with various laboratory tests and procedures. The diagnosis relies heavily on radiographic techniques to rule out the presence of ulcerative colitis, malignancies and other organic factors (Sammons &

Karoly, 1987). Unlike an organic disease like a gastric ulcer, there is no structural lesion causing the symptoms, that when found to be present, clinches the diagnosis. While the patient's gut is clearly malfunctioning, there is no test that may assist the doctor in making the diagnosis, nor current technology that can precisely measure the abnormality (Heaton & Thompson, 1999).

It remains unclear to what extent IBS symptoms represent normal perception of abnormal function or abnormal perception of normal function (Drossman, 1994). Thus it is of utmost importance that there is found an objective method of quantifying and diagnosing this disorder. This method needs to have meaning for both sufferer and diagnostician. The generally agreed symptom cluster includes abdominal pain often relieved by defecation, distension of the abdomen, disordered bowel habit, a feeling of incomplete evacuation, mucus in the stool, looser stools with pain onset, and more frequent stools with pain onset (Andrews, 1994). In addition, a number of non-colonic features have also been recognized; these include nausea, tiredness, vomiting, early satiety, nocturia, frequency and urgency of micturition and incomplete bladder emptying.

IBS represents one of the commonest diagnoses made by Gastroenterologists (Talley et al., 1995). It is maintained (Enck & Wienbeck, 1993) that up to 70% of patients consulting a Gastroenterologist suffer from Irritable Bowel Syndrome. Its morbidity is responsible for considerable absenteeism from work, repeated visits to the Doctor that lead to patient anxiety as they often fear they may be suffering from cancer of the digestive system. The costs to the health care system, both private medical aids, as well as state hospitals, are tremendous. IBS symptoms may also be responsible for unnecessary abdominal surgery (Weber & McCullum, 1992).

To be diagnosed as IBS, the symptoms need to have been continuous or recurrent for a period of at least three months (Broome & Llewelyn, 1995).

A study done by Manning, Thompson, Heaton and Morris (1978) where they administered questionnaires to patients referred by General Practitioners to clinics in Bristol found that six symptoms were more prevalent in IBS than in organic abdominal disease. These became known as the 'Manning Criteria' (Table 2.1).

Table 2.1 - Manning criteria for IBS

- Abdominal pain eased after bowel movement
- Looser stools at onset of pain
- More frequent bowel movements at onset of pain
- Abdominal distension
- Mucus per rectum
- Feeling of incomplete emptying

The more symptoms that are present, the more likely it is that the patient has IBS (Heaton & Thompson, 1999).

In recent years, a team of experts met in Rome and developed definitions and symptom criteria for all the recognized functional gastrointestinal syndromes. These have come to be known as the Rome criteria (Table 2.2).



Table 2.2 - Diagnostic criteria* for IBS (the Rome II criteria)

Twelve weeks** or more in the past 12 months of **abdominal discomfort or pain** that has two out of three features:

- relief with defecation
- association with a change in frequency of stool
- association with a change in form (appearance) of stool

One or more of the following symptoms, on at least a quarter of occasions or days, is usually present, and may be used to identify different subgroups of IBS. They are not essential for diagnosis, but add to the doctor's confidence that the intestine is the source of the abdominal pain. The more symptoms that are present, the more confident the diagnosis:

- abnormal stool frequency (>3/day or <3/week)
- abnormal stool form (lumpy/hard or loose/watery)
- abnormal stool passage (straining, urgency or feeling of incomplete evacuation)
- passage of mucus
- bloating or feeling of abdominal distension

*In the absence of structural or metabolic abnormalities to explain the symptoms

**It is not necessary for the 12 weeks to be consecutive

After Thompson, Longstreth and Drossman (1999, in Heaton & Thompson, 1999, p.10).

Heaton and Thompson (1999) report that abdominal bloating or distension is a very common symptom in IBS. This bloating may be so excessive that it is visible to the sufferer as well as those in the vicinity. It is usually absent on waking, but it worsens throughout the day, so that by evening sufferers may have to loosen or change their clothing.

Associated symptoms must be looked for. Women with IBS are prone to have abdominal pain during sexual intercourse, and their sexual function may be affected by the bowel disorder (Guthrie, Creed & Whorell, 1987).

The physiological factors, definition and diagnosis of IBS have been presented, now the focus will move to the epidemiology of the syndrome.

Epidemiology of IBS

Irritable bowel syndrome is not a disease only of modern living, it was amply described in the 19th century, but its nature may have changed over the years. According to Heaton and Thompson (1999), older accounts placed emphasis on rectal discharge of mucus, although this is seldom complained of now.

IBS presents as a complicated and far-reaching disorder, the individual symptoms of IBS are so common in the community that they may be regarded as part of the human condition. An overview of international studies and prevalence will be presented; thereafter a discussion on gender differences, social implications and age differences will be presented. Many IBS sufferers believe that they are suffering from cancer when they are suffering IBS, which is not mortal, but which comes and goes throughout life, so finally the prognosis of IBS sufferers will be discussed.

International Studies

More than two decades ago, Manning et al. (1978), suspecting IBS to be very common in the community, interviewed 301 apparently healthy people in southern England about their bowel habits and symptoms. They reported that 14 % of those interviewed admitted to abdominal pain on at least six occasions in the previous year, thus they qualified as IBS sufferers. Subsequent surveys in the USA, France and New Zealand (Heaton & Thompson, 1999) produced similar findings. In each of these studies, half, or less than half of those diagnosable with IBS had seen a doctor.

In another study Heaton (1992, in Drossman, 1994), reported that in a random sample of Britons, recurrent intestinal-type abdominal pain was found in 20% of women and 10% of men. Drossman (1994) also reports that IBS is rarely diagnosed in Uganda, but it is common in the Indian subcontinent, Japan and South America. In a study by Segal and Walker (1994, in Drossman, 1994) IBS was found to be unusual in rural Black

communities, but appears to be more common in the urban areas. Thus it seems that IBS troubles humanity everywhere.

Prevalence

IBS is a benign disorder that accounts for over 30% of all gastrointestinal consultations, especially in people under 40 years of age (Macrae, 1994). Drossman (1994) reports that IBS occurs in 10-20% of people, while 15 % of the North American adult population is affected by IBS (Olden, 1992). These distressed, but generally high-functioning patients, respond only variably to medical management. Most people will admit to one or more of the symptoms of IBS, but most of them do not seek medical advice (Drossman, 1994). Thus IBS appears to be a widespread, but underreported bowel disorder.

Farthing (1995) reports that in the developing world the symptoms of IBS are probably more common in the cities than in the rural areas. Sammons and Karoly (1987) are of the opinion that individuals in lesser-developed regions of the world attach less importance to relatively benign bowel disturbances, such as diarrhoea and constipation, as they often live with these conditions and so they are less predisposed to make the assumption that such symptoms are a manifestation of a more serious undetected organic problem.

Gender differences

In most population surveys, the prevalence of IBS is twice as great in women than in men (Heaton & Thompson, 1999). In hospital clinics, the female ratio to males is even greater, at 3 or 4 to 1, thus females with IBS are not only more common than males, but are also more likely to consult a physician (Drossman, 1994).

Female sufferers predominate in western countries, but represent only 20-30% of IBS patients in India and Sri Lanka (Drossman, 1994).

Social implications

Having a functional gastrointestinal disorder impairs the quality of a person's life. For some people the pain may be so intense that it dominates the patient's life. People with severe IBS can spend hours a day in the toilet, they may have to avoid social activities for fear of losing control, and they may suffer a loss of dignity. This may be especially true when urgency of defecation can lead to incontinence of faeces (Heaton & Thompson, 1999). This is a very distressing symptom, even if the soiling is minor, as it has the capacity to make the patient feel ashamed of themselves. Even without incontinence, urgency can destroy patients' lives and even their careers as they become afraid to go out and they always need to be close to a toilet.

In women, sexual function is also often altered by the disorder. The constant dealing with bodily functions often makes the female sufferer feel dirty and unwanted. There is also the added dimension of maybe losing control over bowel functioning during the sex act. Many women also suffer from low pelvic pain and thus gynaecological problems are also common. Prior (1994) reports that up to 50% of women referred to gynaecologists have symptoms that suggest IBS, and less than 10% of these have gynaecological pathology.

Sometimes failure to accurately recognize and diagnose IBS can lead to useless, expensive and irreversible surgical procedures, or stressful and laborious investigations (Fava & Pavan, 1976). In addition, the sufferer might have spent much time in doctor's rooms or clinics and thus much productive time, both in the workplace and in the home may have been wasted.

Age differences

It is estimated that one in nine British children are affected by IBS (Apley & Hale, in Sammons & Karoly, 1987). However, the mean age of presentation is the mid-30's (Prior, 1994), though the onset of symptoms occurs about 5 years earlier. Prior (1994) also reports that IBS occurs in 10% of the population over the age of 65.

Prognosis

IBS is a chronic, yet often remitting condition; episodes of active symptoms are followed by periods of relative inactivity (Heaton & Thompson, 1999). These authors also contend that when a sample of the population is surveyed twice, a year or more apart, it is found that some people who had symptoms have lost them and an equal number have acquired them. Thus, the percentage of people with IBS in the general population may remain constant – at about 15% -, but it seems that the individuals making up this population are largely changed. Talley, Boyce and Owen (1995) report that 30% of sufferers lose their complaints over time for unknown reasons.

Cure seems to be an unrealistic goal for most sufferers, but until this syndrome is fully understood management of the symptoms would seem to be the key.

Aetiology of IBS

Farthing (1995) notes that the failure to identify one specific cause for IBS, or to have a widely agreed upon understanding of the processes, both physiological and/or psychological, makes it difficult to develop an all-embracing strategy for treatment of the syndrome.

Any plausible theories must be consistent with the key clinical and epidemiological features of IBS. These are (in Heaton & Thompson, 1999, p. 18):

- ubiquity: bowel syndromes affect most people, certainly most women, at some time in their lives; most do not complain about them
- intermittency: it comes and goes, sometimes over hours or days, sometimes over months or years
- overlap with other functional symptoms, particularly from the upper gut.

The cause of IBS remains largely unclear, although there seems to be a number of contributing factors that lead to the start of IBS, and then play a part in maintaining the syndrome. A model of IBS was proposed by Whitehead and Schuster (in Broome & Llewelyn, 1995) which includes stress as one of several triggers, including dietary intolerance and emotional states.

Ford, Eastwood and Eastwood (1982) propose that three main areas have emerged in the aetiology of IBS: namely, organic disease (including dietary fibre deficiency), psychiatric constitution and life events. The variable interplay between these three factors may be defined using a ternary phase model. The triangle shape will vary between individuals and within an individual at various times.

There are a number of individual factors that are thought to contribute, singularly or in clusters, to the start and maintenance of the syndrome. These are discussed in the following subsections.

Motility factors

The notion of IBS being a disorder of disordered gut motility has been a long-held belief. It seems as though many patients have abnormal intestinal transit. In some, the transit is slow (true constipation), in others it is fast (true diarrhoea), while in still others, constipation and diarrhoea alternate.

As a group IBS patients have excessively variable transit time (Heaton & Thompson, 1999). Thus, stools vary from being hard and lumpy, to being watery, and the timing of bowel movements tends to be chaotically irregular.

Fava and Pavan (1976) report that it is likely that the disturbances of colonic motility are bodily reflections of emotional states. In a later study done by Kellow, Langeluddecke, Eckersley, Jones and Tennant (1992) it is reported that IBS sufferers have an altered pattern of motility, and while the origin of this pattern is not known it is suggested that stress may be involved. They further found that the responses of the small bowel vary in accordance with the duration of the stressors. The positive relationship between life stress and IBS is thus attributable to exposure to more severe and prolonged stress rather than to hyperresponsivity to stressors.

Dietary factors

In many patients, eating provokes abdominal pain or a violent urge to pass stool that may make the patient feel that the food has “gone straight through”. This may be a

normal, albeit exaggerated, physical phenomenon –postprandial peristalsis of the large intestine or a mass movement, but because the bowel is sensitive, it seems worse than it is. Talley (1994) notes that luminal contents may stimulate or irritate the bowel, but the role of specific foods is still uncertain.

When constipation can be induced by means of drugs in volunteers, they develop IBS symptoms (Heaton & Thompson, 1999). Thus it seems likely that a reduced fibre intake could have the same effect. But because as a group, IBS sufferers eat the same amount of fibre as others, it seems that fibre deficiency cannot be a major cause of IBS.

In some patients the symptoms of IBS can be controlled by a change in diet. Thus it may be plausible that certain IBS sufferers may have a food intolerance, although Heaton and Thompson (1999) contend that these food intolerances may be the result of IBS rather than its cause.

Neurological factors

Much research is being done into the nervous plexuses found in the wall of the intestine called the enteric nervous system (ENS) (Heaton & Thompson, 1999). This is often referred to as the “gut-brain” and it contains as many neurons as the spinal cord. The enteric nervous system contains most of the transmitters found in the central nervous system (CNS) and during sleep the electrical rhythms of the intestines tend to be the same as those of the brain. Drossman (1994) notes that the stimulus that generates the experience of pain initiates neuronal discharges that must pass through the enteric nervous system, its vagal and sympathetic connections to the central nervous system, and the ascending pathways in the spinal cord to centres in the hindbrain and midbrain before reaching consciousness in the cerebral cortex. Along this pathway, the neuronal messages may be altered by the synapses with somatic and descending pathways. Thus it is possible that the symptoms of pain (or bloating) may be suppressed or augmented by events elsewhere in the body or the brain.

Sensory factors

Studies have reported that when the rectum or sigmoid was distended by inflating a balloon IBS sufferers reported pain and discomfort at lower levels than non-IBS controls. On the other hand, pain thresholds on the skin were found to be normal, or even high. This has led to the concept of “visceral hypersensitivity”. This scheme explains many of the clinical features of IBS, focusing on the unpleasant feelings that patients report. It explains abnormal motor activity as a reflex reaction – an irritable organ over-reacting to normal stimuli. But Heaton and Thompson (1999) pose the question as to what makes the intestine more sensitive? They propose that an attack of gastroenteritis appears to do so in 30% of people who go on to have IBS. They report that there are a number of ways in which visceral hypersensitivity could come about, such as:

- insults to the mucosa (e.g. inflammation, infection, exposure to toxins)
- overstretching of the muscle
- leaky nerve junctions in the spinal cord
- provocative signals coming down the spinal cord from higher centres.

Dancey, Whitehouse, Painter and Backhouse (1995) also confirm that there may be a number of triggers such as antibiotics, abdominal operations, stress and gastroenteritis that may precede an attack of IBS. Crouch (1988) points out that the prognosis for those patients whose symptoms begin with an acute infection is thought to be better than those with a gradual onset.

Gut-Brain interaction

Heaton and Thompson (1999) state that it now seems that IBS may lie in the interaction between a person’s gut and their brain. This theory embraces physical factors as well as psychological, and respects the indivisibility of body and mind. It fits comfortably with the biopsychosocial model of health and illness.

It seems that abnormal brain activation may play a part in IBS. Heaton and Thompson (1999) describe a technique whereby using positron emission tomography (PET), it has

been shown that when the rectum is distended the anterior cingulate gyrus of the brain lights up in normal controls, whereas in IBS subjects, it is the left prefrontal cortex that lights up. One explanation for this phenomenon may be that IBS, or consulting about IBS is partly a matter of the way people think and feel about the sensations they get from their insides.

In a study reported by Heaton and Thompson (1999), IBS sufferers in a hospital setting were asked to look at a collection of words, including some which were unpleasant and negative. It was found that the words they remembered best were the unpleasant ones, and they added further unpleasant words to the list that they had not been shown. The medical counterpoint to this negative mind-set is a tendency to attach serious significance to symptoms, even transient ones. This negative mind-set does appear to be a feature of people who complain to their doctors about their intestinal symptoms.

Doctors in a general practice in Hampshire, UK, compared IBS diagnosed patients with people who had the same symptoms, but who had not consulted them (in Heaton & Thompson, 1999, p 22) and found the following:

Consulters with IBS compared with non-Consulters

- Increased number of symptoms
- Apparently increased symptom severity
- Pain more prominent
- Increased healthcare-seeking behaviour
- Increased neuroticism, tendency to somatize
- Heightened fear of serious disease

It thus seems that IBS or seeing a medical practitioner about IBS may partly be a matter about the way that people think and feel about the sensations they get from their insides.

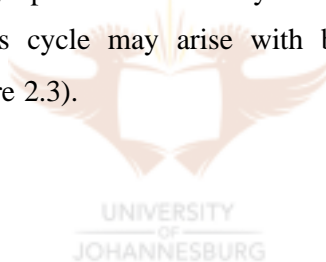
Thoughts, feelings and vicious cycles

Emotional status may have a significant effect on gastrointestinal functions such as gastric secretion or bowel movements (Varis, 1987). A significant element in this

context is life stress, real, anticipated or imagined, which is regarded by an individual as a threat to their security.

There is no doubt that strong emotion can disturb intestinal function acutely. The child who gets a stomach ache before going to school, the nervous student who has to rush to the toilet just before an exam, or the feelings of butterflies in the stomach when one gets excited, all illustrate the fact that the gut reacts to stress. While there is a lot of anecdotal evidence of the above it is difficult to prove that a person's mental state causes gut symptoms to persist.

There are a number of different ways in which a person can react to a "stomach upset"; they can shrug it off as a temporary nuisance and forget about it, or they can panic, fearing a serious disease. If sufferers get upset, then their anxiety may exacerbate the symptoms and cause them to persist. Heaton and Thompson (1999) describe a cycle where anxiety activates the sympathetic nervous system that causes the gut to become more sensitive. So a vicious cycle may arise with bowel symptoms and anxiety exacerbating each other (Figure 2.3).



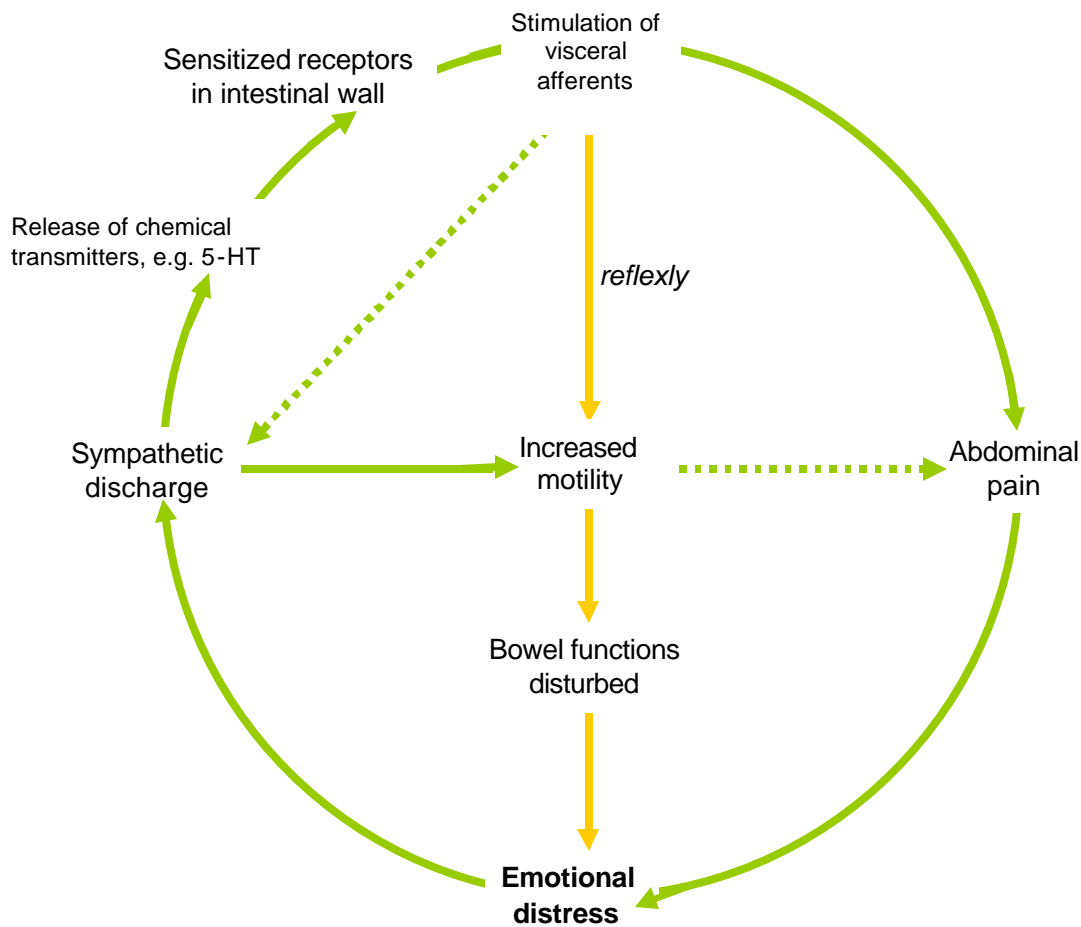


Figure 2.3 Model of IBS emphasizing the role of the sensitive gut and showing one way in which an emotional reaction to the symptoms may perpetuate them, setting up a vicious cycle. (Heaton & Thompson, 1999)

Kellner (1986, in McDaniel et al., 1995) hypothesizes that in the beginning those patients who score high scores on somatization have some somatic symptoms at times of anxiety or depression; these elements become linked in a vicious cycle, and the pairing becomes predictable. For example, a person's stomach may churn when they

become stressed. The patient then labels their problems as an illness, rather than an anxiety attack, and they then become “sick” every time they feel emotionally upset.



Early abuse

Past sexual and physical abuse has been strongly associated with functional bowel disease in women (Drossman et al., in Weber & McCallum, 1992). Drossman et al., (1990) administered a self-report questionnaire to 206 patients in a university gastroenterology clinic, where they found that 44% reported a history of sexual or physical trauma in childhood or later life. Patients with functional bowel disorders were more likely to report histories of physical or sexual trauma than those patients with organic disorders (Walker et al., 1993). In this study, they found that all of the patients who had experienced severe sexual trauma had IBS.

Some family cultures lack any language for emotional experience (McDaniel et al., 1995). The adults may allow only language about physical experience. Children in these families receive care for physical pain but not for emotional pain. This approach conditions children to experience any need or problem as physical, and physical symptoms become their language for a range of experiences. There may thus be a link between severe somatizing behaviour and early deprivation, trauma, physical or sexual abuse.



Constant criticism by adults and other children in a family may be part of emotional abuse. In a study done by Fiscella, Franks and Shields (1997) it was found that perceived family criticism predicts greater primary care utilization. As most IBS sufferers studied in the various trials are drawn from clinic populations it might follow that early familial abuse might be present in these particular populations.

Learnt IBS Behaviour

Varis (1987) points out that at birth the autonomic function of the gastrointestinal tract serves only to nourish the organism and to excrete waste material. Eating and defecation as processes of bodily function then become part of social behaviour that the child has to learn. During this period the child has to either abandon or suppress existing primitive notions about food, eating, faeces and defecation. Thus if the child breaches

the standards about psychosocial behaviour in the family and culture, guilt, conflicts, depression and anxiety are likely to occur as a result. It is therefore not surprising that IBS sufferers suffer inappropriate shame and guilt.

Sammons and Karoly (1987) are of the opinion that IBS is a manifestation of learned illness behaviour as they found that the IBS group they studied had reported receiving more rewards for illness during childhood. These authors back their theory up by quoting an example of a tripartite theory (Latimer, 1983, in Sammons & Karoly, 1987) that attempts to unite biological, psychological and social factors. The primary supposition of this model is that IBS results from learned maladaptive patterns of behaviour, and that such maladaptive behaviour is manifested across three dimensions relevant to the clinical presentation of IBS symptoms, namely, verbal behaviour (reports of bowel behaviour), motor behaviour (pill-taking and trips to the toilet) and physiologic behaviour (colonic contractions). Parental overconcern towards gastrointestinal problems reward the child when the child complains of abdominal problems. Thus rewarded, the child adopts a hypervigilant attitude towards gastrointestinal function, which is incorporated into a maladaptive self-regulating system governing health attitudes and behaviours. Thus, IBS behaviour in adulthood may have come about as a learnt response from childhood.

IBS, a conceptual model

Early life factors (e.g. genetic predisposition and environmental factors including learning) influence later psychosocial factors, physiologic functioning, their interaction via the central nervous system/enteric nervous system (CNS/ENS) axis and susceptibility to developing IBS. The combined and integrated effects of altered physiology and the person's psychosocial status will affect how the symptom is experienced, the degree of symptom behaviour and ultimately the outcome (taking of medication, Doctors visits, daily level of functioning, quality of life). The clinical outcome will in turn, affect the severity of the disorder. A graphic representation of this model follows in Figure 2.4.

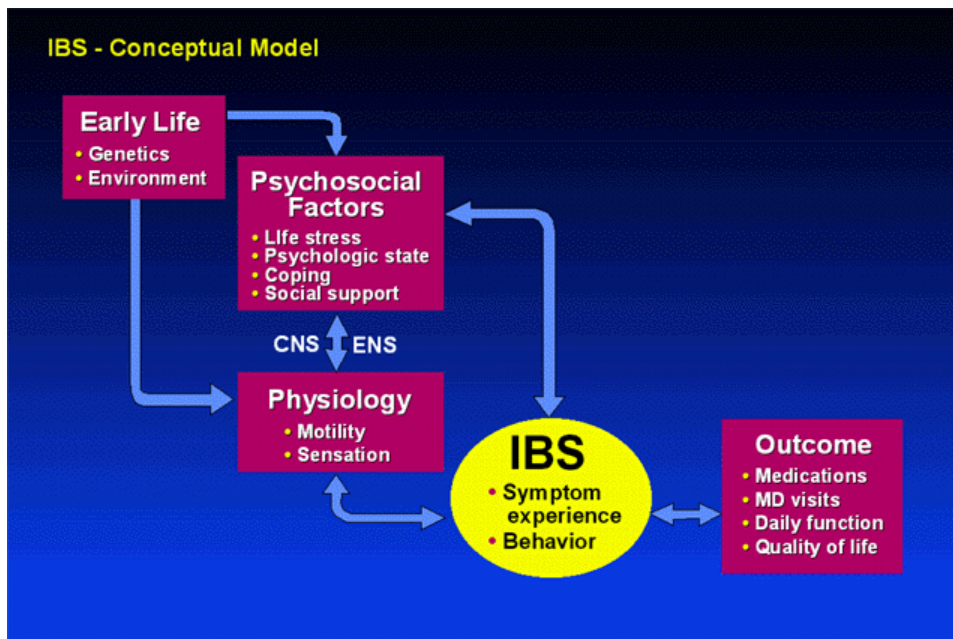


Figure 2.4 IBS – A Conceptual Model (Drossman, Camilleri & Whitehead, 1997)

According to Sammons and Karoly (1987) the most universally accepted definition of IBS includes two factors: (1) the existence of abdominal pain or abnormal bowel habits, and (2) the absence of pathophysiology of the gastrointestinal tract. The presence of pain is all too often a companion to IBS, and most sufferers report high degrees of abdominal pain. In fact, the Rome II criteria demand that in order to diagnose IBS there has to be pain, and that pain has to be defecation-related (Heaton & Thompson, 1999). The following section further elaborates on pain and IBS.

Pain and Sick Roles in IBS

IBS and pain are constant bedfellows. It is often because of this pain and the fear that it may be masking a more sinister and deadly disease that patients start looking for a medical practitioner that will put their fears to rest. It is also often the very diagnosis of IBS being a benign disease that causes them to seek another medical opinion. Thus IBS sufferers often see various doctors in order to allay their fears. The following subsections deal with pain and IBS, the language of pain and the behaviour that this constant pain may lead to. The final sub-section emphasizes the importance of the IBS sufferer's relationship to the doctor.

IBS and Pain

All patients with IBS have abdominal pain. Many IBS patients get admitted to surgical wards as “acute abdomen”, only to be discharged with a provisional diagnosis of non-specific abdominal pain (Heaton & Thompson, 1999). Pain can occur anywhere in the abdomen, but it is most commonly found in the right or left iliac fossa, or both (Prior, 1994). The severity and characteristics can vary. Typically the pain eases off after defecation, but sometimes it gets worse.

The pain is usually from the abdomen, but there may also be pain anywhere between the nipples and the thighs, front or back (Heaton & Thompson, 1999). However, it usually betrays its intestinal origin by the connections between the pain and defecation, as given by the first three Manning criteria (i.e. abdominal pain eased after bowel movement, looser stools at onset of pain, and more frequent bowel movements at onset of pain). Heaton and Thompson (1999) further note that IBS pain is usually different from that of organic disease. It can be very brief, it is often diffuse, and it varies greatly in severity, location and character whereas pain from organic causes tends to be more localized and distinctive. Also pain from IBS often remits for weeks or months at a time, usually during periods of relaxation.



A study by Lowman, Drossman, Cramer and McKee (1987) compared adult IBS patients, adults with IBS symptoms who had not sought medical treatment (nonpatients) and normal subjects without bowel symptoms. They found that patients reported more frequent and more severe symptoms and illnesses as children, more patients and nonpatients reported headaches and /or stomachaches than normals. More patients reported having bowel symptoms before the age of 12 than nonpatients and controls. Constipation was the most frequent symptom encountered. Patients also reported the most doctor visits and they also missed the most school days. Both nonpatients and patients reported too much or too little parental concern when they were ill. More patients than normals reported disruption in their families of origin, and more patients and nonpatients than normals reported disruption in their adult families. Patients and nonpatients were more likely than normals to report maternal relationships as extremely close, unusually negative, or conflicted. Women with abdominal pain are reported to have more models for abdominal pain behaviour in their families. Therefore it is

possible that a childhood history of such pain, coupled with the reinforcement of illness behaviour surrounding these symptoms may later lead the individual to experience future pain as problematic enough to require medical care. In general, people with IBS symptoms report receiving more attention and reward for being ill. Thus it seems that childhood illness and parental behaviours regarding illness may contribute to IBS symptoms later in life.

Bakal (1992) theorizes that for dynamic theorists, pain is a communication that goes well beyond the physical injury endured by the patient. Instead, it concerns the pain from a life of giving without receiving and from early childhood experiences that led to the pre-injury behaviour patterns typically reported by these patients. In a groundbreaking paper written in 1959 by Engel, he describes the pain-prone individuals as people who are “chronically depressive, pessimistic and gloomy people whose guilty, self-depreciating attitudes are readily apparent.....some seem to have suffered the most extraordinary number and variety of defeats, humiliations, and unpleasant experiences,.....They drift into situations or submit to relationships in which they are hurt, beaten, defeated, humiliated, and....seem not to learn from experience,.....they conspicuously fail to exploit situations which should lead to successes....Even though they complain of pain, for them pain is almost a comfort or an old friend.....It is an adjustment, a way of adaptation, acquired through psychic experience” (in Bakal, 1992, p.205).

The Language of Pain

Survey data would suggest that just about everybody is at risk of developing a pain problem during their lifetime (Bakal, 1992). Migraine headache, chronic daily headache and abdominal pain are known to occur with a very high incidence in industrial countries, at a high cost financially, emotionally and interpersonally to those involved. To the sufferer, pain is a signal that something is physically wrong in that body location. But this view appears too simplistic in understanding the majority of pain problems seen in clinics. Many occurrences of pain persist beyond the expected period of healing, or recur for no apparent reason (Bakal, 1992).

Pain Behaviour

Patients who suffer from chronic pain often develop certain coping strategies in order to help them cope with their pain. These coping strategies have received considerable study, the best example which comes from Keefe and his colleagues (in Bakal, 1992). They have identified a number of coping strategies commonly used by chronic pain sufferers and have classified these as follows:

1. diverting attention
2. coping self-statements
3. praying or hoping
4. increased behavioural activities
5. reinterpretation of pain sensations
6. ignoring pain sensations
7. catastrophizing

Chronic pain sufferers are prone to try and think of things that will distract them from the pain, and they hope and pray that the pain will go away one day. Keefe and Dolan (in Bakal, 1992) propose that patients have difficulty accepting the chronicity of their condition and are prone to cycle through periods of overactivity followed by increased pain and periods of prolonged inactivity. Patients who engage in high levels of catastrophizing have a poor prognosis unless they learn to identify and change these negative thought patterns.

Bakal (1992) argues that for any strategy to be effective in reducing pain, the approach needs to be a multidisciplinary one that strengthens the patient's proficiency at modifying the "internal milieu" maintaining the pain condition.

The Sick Role and the Patient-Doctor Relationship

According to Turner (1995) the sick role can be defined in terms of four components. The first aspect is that the sick role lends credence and legitimises social withdrawal from a number of social and work obligations. The second feature of the role is that the sick person is exempted from taking responsibility for their condition, and that they

need to consult with a professional. The third component is that the sick person has a social obligation to get better; cooperating with the recommendations of a competent doctor does this. The fourth component within the sick role is therefore the expectation that the person will seek out competent health care from a trained physician. Thus, the sick role describes the social system of the doctor-patient relationship.

If management of the disorder is to be successful, the patient must be confident of the diagnosis and the diagnostician (Drossman, 1994). Because IBS is usually chronic and recurrent, a continuing therapeutic alliance is necessary.

A high proportion of IBS patients believe they may have a serious illness, mostly they believe this to be cancer (Crouch, 1988), and thus education, reassurance and support from the medical practitioner are of utmost importance. Heaton and Thompson (1999) note that on long-term follow up, most patients with IBS still have bowel symptoms that are still benign. Thus patients can be firmly told that IBS has no mortality rate and no organic complications. Varis (1987) reports that as regards IBS the doctors' support role may be highly significant. "The Doctor is the treatment" (Varis, 1987,p.140).

Heaton and Thompson (1999) are of the opinion that there is great therapeutic value in a good relationship with an empathetic healthcare provider. They are of the opinion that the ultimate goal of this relationship should be that a patient who perceives their symptoms as no more than a nuisance should re-join that silent majority of people with IBS who do not seek healthcare.

While it is often difficult for the IBS sufferer to find an empathetic doctor who is able to inform them with scientific understanding and common sense what is available, they may also need to find a competent therapist who understands the genesis of IBS, as many sufferers also suffer from some form of underlying problem, such as depression or anxiety.

Psychological Concomitants of IBS

Zurawski and Lembo (1996) report that psychiatric diagnoses are present in 42-62% of IBS patients who have sought medical consultation. Fava and Pavan (1976) report that

in their study as many as 70% of patients with IBS reported psychiatric illnesses, especially depression. In comparison, psychiatric diagnoses are present in about 20% of patients with other gastrointestinal diagnoses. Stuart et al. (1999) report studies where it was found that 74% of IBS sufferers had at least one co-morbid psychiatric diagnosis, and this was confirmed by a study carried out by Wilson (1997, in Stuart et al., 1999) where it was found that 98% of IBS patients had elevated scores on the PAI (Personality Assessment Inventory) which measures psychopathological trends, 34% at a clinically elevated level. Langeluddecke (1985, in Dancey, et al., 1995, p. 827) states, “ A growing body of evidence attests to the high prevalence of psychological symptoms in IBS samples, and suggests that psychological factors may play an important role in the pathogenesis of IBS in a significant proportion of patients”.

In a study done by Talley et al. (1995), subjects with IBS reported significantly higher scores on somatization and lifetime depression than non-IBS sufferers. Sammons and Karoly (1987) have documented that a substantial percentage of people who present with IBS also report significant symptoms of depression and anxiety.

Heaton and Thompson (1999) point out that doctors treating patients with IBS should be on the lookout for unspoken agendas. Gut symptoms may be a socially acceptable vehicle for seeking care, more so than psychological symptoms, yet psychosocial disturbances underlie many patients' decision to consult with a physician. An adverse life event can enhance a person's awareness of their body and its sensations. This may lead them to seek healthcare, while at the other end of the spectrum physical abuse or family disintegration can pose complex problems, which will require not only the intervention of a physician, but also that of a skilled counsellor. Some patients with long-standing IBS lose their ability to cope with IBS because they have developed anxiety, depression or panic.

Depression and anxiety

The following definitions are cited for depression:

- Rowe (1983, in Adams & Bromley, 1998, p.15): “ Depression is the greatest isolation that we can experience. When we are simply unhappy we can seek comfort

from others and we can comfort ourselves. But in depression we can neither give nor receive comfort, for we are alone in a prison, and that prison is filled with fear, anger, guilt and despair”.

- Twaddle and Scott (1991, in Adams & Bromley, 1998, p.16): “ the central features of the syndrome of depression are depressed mood, pessimistic thinking, loss of interest and reduced energy level. The abnormality of mood is the most consistent and prominent feature. It is differentiated from sadness because it is more persistent, perhaps exaggerated in response to the provoking stress”.

Spielberger, Gorsuch and Lushene (1968, in Adams & Bromley, 1998, p.15) define anxiety as “...a palpable but transitory emotional state or condition characterized by feelings of tension and apprehension and heightened autonomic nervous system arousal”.

It seems that anxiety and depression are inextricably linked, and the traditional separation into many different disorders has been difficult to apply to the majority of people suffering from mixtures of anxiety and depression (Montgomery, 1990, in Adams & Bromley, 1998). Montgomery further argues that it is not helpful to regard depression and extreme anxiety as separate syndromes as the two states are most often seen together. In a study conducted by Els, Gagiano, Grundling, van Zyl and Joubert (1995) major depression (current and lifetime) was found in 33% of subjects suffering from IBS, while anxiety syndromes and symptoms were present in 60%. They further found that 71% of patients with IBS had either anxiety, or depression, or both. The researchers raise the question as to whether IBS is a condition related to anxiety, depression, or both, or a mixed complex, and further, do psychiatric symptoms develop as a consequence of coping with the stress of a chronic gastrointestinal illness, or is IBS a physical expression of psychiatric illness?

Emotional stress causes psychophysiological responses such as the elevation of blood pressure and pulse rate as well as the activation of gastric secretions and bowel movements (Varis, 1987). These reactions are normal responses that are seen in healthy people as well as patients, although the responses in symptomatic patients may be of greater magnitude. Thus anger may be one of the stress reactions which if not correctly

modulated by psychic mechanisms that may play a part in the onset and maintenance of IBS in some patients.

Anger

Adams and Bromley (1998, p.4) define anger as "...a natural human emotion of displeasure, often passionately felt, which can be expressed in a variety of ways, including aggressive ones, or not at all".

According to Eysenck (1985, 1994) as well as Spielberger, Krasner and Solomon (1988, in Adams & Bromley, 1998), anger is thought to be important in health- and illness-related conditions, particularly when it is repressed or inhibited. In a study carried out by Pokroy and Mayer (1997, in Stuart et al., 1999) it was found that people suffering from IBS use "turning against self" as a means of coping with their stress. They do not confront or deal effectively with their aggression but rather turn it inward towards themselves. It is through this internalisation that IBS may develop.

Chesney (in Hafen, Karren, Frandsen & Lee Smith, 1996, p.170) states, "The concept of anger usually refers to an emotional state that consists of feelings that vary in intensity, from mild irritation or annoyance to fury and rage." According to Fiscella et al. (1997), a handful of studies suggest that expressed emotion also influences physical health. William Whitehead, associate professor of behavioural biology at John Hopkins Medical School, notes, "the gastrointestinal tract is particularly susceptible to emotional stress and very readily comes under the influence of external factors and events" (Hafen et al., 1996, p.15). Varis (1987) also notes that emotional status may have a significant effect on autonomic gastrointestinal functions such as gastric secretions or bowel movements. A finding by Whitehead, Engel and Schuster (1980, in Varis, 1987) shows that patients with IBS may have psychopathological traits such as anxiety, interpersonal sensitivity, depression, somatization and hostility more often than normal controls. Specifically, acute anger has been shown to increase the motility index in the colon of everyone, but particularly so in patients with IBS (Farthing, 1995). This is especially true in the case of those who tend to underestimate the impact of negative events in their life (Drossman, Mckee, Sandler, Mitchell, Cramer, Lowman, & Burger, 1988). Thus it

is possible to approach such patients with the hypothesis in mind that they have symptoms instead of emotions.

Friedman and Booth-Kewley (1987, in Bernard & Krupat, 1994) reviewed the results of 101 different studies and found that the profile for a disease-prone personality is likely to consist of depression, anger, hostility, and anxiety. This leads the researcher to ask whether IBS sufferers may have a disease-prone personality?

There is a small subset of IBS sufferers who experience severe pain that does not with meals, activity, or other physiologic changes (Drossman & Thompson, 1992). These patients often suffer from psychological disturbances such as anxiety, depression, chronically impaired daily functioning as well as somatization.

Somatization

Recognition

They call it
Somatisation disorder

A technical term for
“it’s all in the mind, dear”

No cancer, only

Numerous physical symptoms
Throughout my pain-ridden body

Whose crude language speaks
For my despair

As years ago I feared
The terror and betrayal
Of the night

But depression has frozen
Both memory and emotion

And cancer serves as a metaphor
A symbolic representation
Of the past

A means of expressing
The otherwise inexpressible



As the body remembers what
My mind cannot face

Alex Benjamin (in Malone, Farthing & Marce, 1996, p.14)
Medical anthropologist Kleinman (1986, in McDaniel et al., 1995,p.353) describes somatization as “culturally authorized, socially useful, and personally availing”.

Susan Sontag (in Bakal, 1992, p. 21) describes somatization as “an emotional body language, a metaphor for social and personal experience, a tendency to avoid the use of emotional language in describing feelings in favour of descriptions of bodily sensations”.

According to McDaniel et al., (1995), those patients who carry one of the Diagnostic and Statistical Manual of Mental Disorders (DSM V) diagnoses of Somatoform Disorder, are people with difficult life situations who present not with anxiety, relationship problems or depression, but with numerous physical problems. They further state that for some of these people a medical illness may be identified, but for others no evidence of a disease process can be found. In either case however, they become somatically fixated. The language they use to construct their problems, their solutions, their identities, their relationships and their lives is a language of the body. Rather than use emotional language to express emotional distress, they tend to use somatic language to describe all difficulties, whether physical or emotional. “The language of somatization is part of a lifelong coping style that functions like a chronic illness; it ebbs and flows, depending on other physical and emotional stresses and strains” (McDaniel et al., 1995, p.351). Somatizing patients are a challenge to medical science as they live at the center of the mind-body split. They can range from the “worried well” –those without disease processes who are sensitive to, and worry about, bodily cues – to those with an injury or disease who are overly concerned about their symptoms (McDaniel et al., 1995). It follows then that IBS sufferers, particularly those in an acute phase, would worry about bodily cues, and may even become obsessed with their symptoms. These patients are more likely to label their symptoms as problems in need of medical attention. Enck and Wienbeck (1993) are of the opinion that psychological factors may be involved in IBS in several ways: a subgroup of patients with IBS show psychopathological traits such as anxiety or depression, which may not cause the

symptoms but which may determine which patient will consult a doctor for these complaints. Ford et al. (1982) note that it seems likely that IBS is often part of and prolonged by psychiatric illness.

Chapter Summary

Irritable Bowel syndrome is a chronic, relapsing condition characterized by a change in bowel habit and abdominal pain and patients who consult their doctors come with problems that are multidetermined, complex and interrelated. If this syndrome is to be fully understood there must be an expansion of the focus from the mechanisms of the disease to the person within the context of their biologic and behavioural influences (Drossman, 1983).

Gastroenterologists, general practitioners, and patients with IBS are under no illusions that no universally effective treatment exists for the condition (Farthing, 1995). Since this syndrome is so common it may be tempting to consider it as a normal variant of daily living. But for those suffering, this offers scant hope. An attempt needs to be made to understand IBS in its entirety, not to just treat it as a disease affecting only the body, but as one that affects the spirit of the sufferer as well. Thus the whole person needs to be the focus of research and treatment if a greater understanding of IBS is to be gained.