

# **Health Concerns For BELIEVERS**

Contemporary Issues  
(Shahid Athar, M. D.)

**In the Name of God, the Merciful, the Compassionate**

"And when I am ill,  
it is He Who cures me"  
(The Holy Quran 26:80)

## **To my patients**

15,000 of them in 25 years  
whom I thank for trusting me  
for health care and teaching me about their illnesses

## **Physician's Prayer**

Praise be to God  
The Creator of the Universe  
Who taught us,  
"Whoever saves a human life has saved the life of all mankind"  
(Quran 5:32).

- Give us the knowledge, the skills and the will to serve fellow humans.
- Give us the wisdom to comfort and console all toward peace and harmony.

Help us alleviate human sufferings.

- Give us the strength to admit our mistakes, amend our ways and to forgive others.
- Give us the devotion to serve the poor, the hungry, the destitute and homeless with honor, love, dignity and piety, with patience and tolerance, with knowledge and vigilance, with Thy love in our hearts, compassion for Thy servants and desire for Thy mercy for all those who are instruments of Thy healing. (Amen)

Shahid Athar, M. D.

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## **PREFACE**

I thank God for giving me the knowledge and then the privilege of taking care of the health of my fellow human beings. Health is not the absence of disease. It is a state of total well-being, physical, mental and spiritual.

Mankind was created "in the best of molds," but does not keep up with the "maintenance manual" of this most incredible machine.

We damage our systems with excesses of salt, sugar, fat and calories and develop high blood pressure, diabetes, coronary artery disease and obesity.

We suffer from stress and damage to our lungs with cigarettes and our liver with alcohol.

The Quran, which calls itself "a cure for mankind" is not a textbook of medicine.

However, in it are guiding principles which, if understood and applied correctly, will lead to a healthful lifestyle to help us maintain a healthy body. Muslim physicians of today, as in the past, have a mission to translate the medical knowledge in the Quran into practical application.

We must tell others why the Quran prohibits alcohol, intoxicants and pork. We must learn the medical benefits of fasting during Ramadan. We should also find out from the Quran how we can cope with modern stress. Finally, we should define Islamic medical ethics and determine how they apply to the decision-making process in the case of terminally ill patients organ transplantations, infertility and AIDS patients.

All these are discussed in a brief book and some suggestions for health maintenance are given with the belief that a healthy individual is a must for a healthy nation.

I thank my associate, Dr. Moazzam Habib, for reviewing these articles and KAZI Publications for publishing them in a book form.

I am sure Muslim and non-Muslim readers will equally find them useful.

I also wish to thank the following for their permission to reproduce my articles herein:

Pan-Islamic Publications, Karachi, Pakistan for "Health from the Quran and Sunnah," "Stress Management-An Islamic Perspective " "Prohibited Food and Ingredients, Effect of Hormones on Behavior," "Medical Aspects of Fasting,"

"Alcohol and Drug Abuse-The American Scene and Islamic Perspective," and "Islamic Perspectives in Medical Ethics."

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I also acknowledge and thank Dr. Adil Ashary, Dr. K. C. Khemka and Ms Kauser Siddiqi, MS, RD for their input in the first article, "Health Maintenance Through Exercise and Nutrition."

## **FOREWORD**

It is a joy to read these articles on health issues by Shahid Athar, MD, a Muslim physician with a quarter of a century's experience in practice and teaching medicine.

In a world of constant dynamism, information highways, scientific and medical progress, the task of keeping pace with the challenging medical issues is never over. Concepts change.

New frontiers and challenges are born all the time. Medicine, too, has progressed tremendously over the past century. Diseases and problems faced by us today were unheard of a generation ago.

Contemporary issues such as Acquired Immune Deficiency Syndrome, euthanasia, weight and stress management are eloquently addressed in this new book by Dr. Shahid Athar. Perspectives are also offered on topics as to how to help diabetics who wish to fast, life support for the terminally ill and organ transplantation.

These interesting and thought-provoking topics are well covered in this book. In a very informative, down-to-earth style, Dr Athar draws the attention of professionals and laymen alike.

He seeks to focus on the Islamic perspective of these important issues, missing in the contemporary literature, with references from the Quran. The Quran, although not a book of pure science, still touches a number of issues that are closely related to basic canons of medicine that include hygiene, psychosocial attitudes, food and drink, etc. Prophet Muhammad (PBUH) by his example, laid the foundation for a healthy lifestyle that is a model for all humanity. Dr. Athar's reflections on these provide a timely reminder for all of us to incorporate these ideas into our lives.

I highly recommend this valuable book to all those who are interested in their own health or of their patients, Muslims or non-Muslims.

## **HEALTH MAINTENANCE THROUGH EXERCISE AND NUTRITION**

The human body is a fascinating but complex machine, different from man-made machines in that it continues to grow, change shape and work 24 hours a day and still can last up to 100 years or more if well cared for.

In order to maintain growth, development and strength, the body needs good nutrition, protein for building blocks, carbohydrates for energy, and fat for fuel. Minerals and calcium build bones and vitamins act as catalysts in the complex chemical reactions. Thus good, balanced nutrition is essential for the optimum development and performance of the human body. Most of the repair work of the day's wear and tear is done when the factory is shut down during sleep.

Exercise is needed to improve circulation, to lubricate joints, to strengthen bones, to improve oxygenation to the lungs and brain, and to increase the performance of the pump (heart).

Routine exercise has been shown not only to decrease cardiovascular diseases, but also to lower blood pressure, control diabetes and prevent some cancers.

## **NUTRITION FOR WEIGHT MANAGEMENT**

A hormone specialist is frequently asked to deal with a common medical problem affecting millions of Americans and that is weight gain. When someone is 20% over his or her ideal body weight, that person is considered to be overweight.

The ideal body weight is determined according to age and height.

100 pounds of weight is allowed for the first five feet of height.

For each additional inch, we can add five pounds.

(Figs. 10, 11)

Therefore, for an average build person, if he is 5 feet 10 inches tall, his ideal weight would be 150 pounds.

We can add 10% for a heavy frame man and subtract 10% for a thin-frame woman.

Therefore, if your ideal weight is 150 pounds and you weigh 180 pounds, it is time to get concerned because you are overweight.

## **WHY LOSE WEIGHT?**

Obesity is a worldwide problem. In the United States, 40% of adults and 15% of all children are overweight. Unused food is stored as fat.

The stored body fat is linked to heart disease, high blood pressure, diabetes, gout and arthritis. It is estimated that approximately 4 million people per year die from these diseases, and death can be directly linked to obesity as a co-existing factor.

Those who weigh 20% more than they should, cause their heart to work double. When an overweight person walks, the force across his knee is six times over his body weight. When he runs, it is ten times over his weight.

Life expectancy figures for the overweight are grim. Only 60% of overweight people reach the age of 60, as compared to 90% of slim people.

These figures increase with the degree of obesity and associated risk factors. A person who is only 20% above his ideal body weight has a 130% cardiovascular mortality or the risk of dying, while if his weight increases to 40% above his ideal body weight, the risk increases to 260%. In addition, the overweight person could be considered a cosmetic problem especially in the female sex. Also, weight gain affects people psychologically because of the cosmetic factor and the fact that they feel they are less likeable and less attractive. This causes depression and a sense of withdrawal.

## **WHAT CAUSES WEIGHT GAIN?**

1. Hormonal Factors: Only 10% or less of overweight people have an underactive gland which may be due to thyroid or other glands, or there may be an endocrine and metabolic problem causing them to burn their fat at a lower speed than a normal person would. Therefore, before going on a crash diet, one should see a physician to make sure he does not have a hormone imbalance.

2. Dietary Factors: 90% of obesity is caused by overeating.

This problem of overeating does not occur all at once. It is a problem which begins in infancy. We have established certain myths in our society that a Gerber baby is a happy baby.

This is not true. Mothers tend to make sure that their children finish everything on their plates and keep on eating as a part of good nutrition. In fact, overeating leading to obesity is a part of malnutrition rather than good nutrition. When these

children grow up, they continue the habit of finishing up everything on their plates and nibbling in between.

Most people eat more than they need. A normally active person needs about 15 calories per pound of weight to be normally active and healthy. Calories are the amount of energy produced by the food of a given quality. However, if someone weighs 200 lbs., that means that he is eating about 3,000 calories rather than 2,200 calories, which is what his ideal requirement would be.

It is not only the quality of the food which causes overeating, but it is the quantity of food as such. Most people who are overweight indulge in eating excessive amounts of carbohydrates. Carbohydrates come from sugar and other sweet things as well as from starches. Carbohydrates are converted into glucose in the blood. A hormone called insulin, produced in the pancreas, lowers blood sugar as it diverts glucose to channels of energy.

Some overweight people have high amounts of insulin in their blood which lowers their blood sugar too much and causes an increase in appetite. Some have a delay in secretion of insulin which causes insulin to be released after the blood sugar has reached its peak and begins to drop. This late output of insulin also causes a reactive lowering of blood sugar leading to an increase in appetite. This in turn stimulates the brain center for appetite. The person eats again, increasing the blood sugar. This unused glucose is stored as fat.

Some people have a habit of compulsive eating whether or not they are hungry. Others have a tendency to start eating whatever they can put their hands on as soon as they come home for school or work. Many housewives are overweight because they may be depressed and have nothing with which to relieve their depression except food. Eating corrects their hypoglycemia and makes them feel better. Many housewives, especially in the upper class, are not very active, and therefore they do not have the same energy loss as a normal, hardworking person.

The body's caloric balance is like a savings account. Food deposits calories in the body. The body draws out calories to meet an urgent need. If more calories are put in than drawn out, the excess calories are stored in the body in the form of fat. Moderate to average exercise will cause a balance from the energy intake and output. However, for those housewives and others who are not very active, the energy intake will be more than the energy output, and they will thus gain weight. Television contributes to our obesity. Watching television replaces

Physiological                  Social and Cultural          Individual

- |   |   |                                   |
|---|---|-----------------------------------|
| 1. Early Learning                         | Food as a: reward                           | 1. Eating Habits                  |
| * Hunger cramps<br>in empty stomach       | Punishment                                  | 2. Food Preference                |
| * Treatment-Food                          | Entertainment                               |                                   |
| 2. Late Learning                          | Habit                                       | 3. Lifestyle                      |
| * "Eat it because<br>it is good for you"  | Ritual                                      | 4. Knowledge                      |
| * Clean Plate Baby                        | Vehicle for Social<br>Interaction           | 5. Financial and<br>Social Status |
| - "Eat it because you<br>have paid for it | As Indicator of Wealth<br>and Social Status |                                   |

Determinants of Eating Behavior physical activity and leaves the mouth free to snack. Attitudes toward food and fat must be changed.

In many cultures, obesity, especially in men, is considered a sign of prosperity, which is not true. He may look better but will die younger. Many of our cultures have celebrations and festivals which start and end with food.

We should realize that this is the system we have devised, rather than part of the natural order of things.

Neither sweets nor salt is essential to our body in the sense that the child is born with neither taste.

We develop the taste and sustain the taste, and we also increase the taste as it suits us.

## **WHAT TO DO WHEN WE ARE OVERWEIGHT**

In the United States, there is an upsurge of weight loss clinics as well as gimmicks ranging from the diet pill and intestinal operations to jaw wiring and refrigerators with doors telling their openers, "Shut the door, you fat-so!" However, sensible dieting and behavior modification constitute the cornerstone of treatment for overweight

First of all, the quantity of food is the most important factor. Therefore one should calculate the amount of calories he is eating to keep his weight as it is now.

As shown in the previous example, if one's weight is 200 pounds, then one must be eating 15 calories per pound of weight to keep one's weight as it is. Therefore, one should consume a 3,000- calorie diet.

If one weighs 150 pounds then one should eat 15 multiplied by 150 or 2,250 calories. If one want to lose weight to below 150 pounds, then one must eat a diet consisting of 10 calories per pound of one's ideal body weight. In any case, one

should eat fewer calories than allowed if one wishes to lose weight and should eat more calories than allowed if one wishes to gain weight.

At the end of the essay, a 1,000-calorie diet is given as an example. There could be personal variations in the quality of food. In general, high-energy food with sugar and starches are not advisable. The most essential part of our food is protein which comes from meat, eggs, fish, chicken and beans. The next essential part of our food is carbohydrates which come in two forms-the slow-burning starches like rice and bread and the fast-burning kind like sugar. The second kind of carbohydrates is a no-no. The rest of the calories should come from fat, after allowing for carbohydrates and protein. Preferably, unsaturated fat, like vegetable fat, should be used rather than animal fat.

After careful calculation, one should devise his diet and should try to stay on it. It is easier to lose weight than it is to keep it off. Losing weight means a temporary change in eating habits. It is a hard fact that to make the weight loss permanent, the person must make a permanent change in his eating habits as well as increase his physical activity.

Many overweight people also have a habit of not eating breakfast. This is not a healthy practice in that it leads to a feeling of hunger in the latter part of the day and leads to overeating. Therefore, a balanced breakfast will prevent overeating in the latter part of the day.

My own suggestions for sensible eating habits includes the avoidance of snacks, starches, sweets, second helpings, sweet soft drinks, fried food, fat and salt.

A protein-sparing diet includes protein without carbohydrate or fat, along with plenty of fluids and vitamins. One can stay on this experimental diet for two to four weeks before assuming a more normal pattern. One can usually lose up to five pounds a week during fasting.

This diet is recommended only under supervision.

We do not approve of the use of prepared foods, especially protein diets, either in liquid form or powder form, because these diets cause potassium deficiency and can lead to adverse effects on the heart. Similarly, appetite-suppressing drugs can be harmful, resulting in loss of sleep, dry mouth, palpitations and possibly further heart problems. Nutritional behavior and exercise are the key to successful weight management.

One should eat slowly and try to enjoy the meal rather than gulping food down rapidly.

One should eat from a small plate rather than a large one, and eat only what he is hungry for or less. In-between snacking again is not recommended in the daily allowance because it will add to the total amount of calories taken in.

Behavioral counseling and learning from each of our experiences are very important.

This is why group treatment is used in some weight clinics with success.

It is the sense of competition that motivates people to lose weight and feeling rewarded both socially and psychologically. Enclosed is an example of a 1,200-calorie diet which an overweight person can start by himself. As he loses weight, he should adjust the diet.

## **AEROBIC EXERCISE FOR FITNESS**

Weight control is the most popular reason for beginning an exercise program. Cardiopulmonary (heart and lung) health is one of the most important benefits of any aerobic exercise. Simply speaking, aerobics is any sustained exercise that forces the heart and lungs to pump a certain amount of oxygen into the muscles. This effort increases the efficiency of the cardiopulmonary system and of the metabolism of the muscles themselves.

Not all exercises are sufficiently intense to be aerobic. An aerobic exercise that improves the condition of your heart and lungs must have three characteristics:

briskness, sustained and regular. During exercise, your heart must beat at 60 percent or more of its maximum rate. It should be sustained for at least 15 to 30 minutes without interruption, and it must be repeated at least three times per week.

Sixty percent of your maximum heart rate, the lowest point at which you begin to derive aerobic benefits from exercise, is called the aerobic threshold. Some types of exercise never get you to this threshold. Doing biceps curls all day, for example, would provide no aerobic benefit because this exercise does not use enough muscle mass. The heart does not have to work hard to pump the required blood. Other sports, such as swimming, use large muscle masses but still may not push one into the aerobic threshold. Because water buoys the body, many swimmers are not working as intensely as they think.

One can find out how much to exercise by keeping track of one's heart rate. Exercise above 75 percent of the maximum heart rate may be too strenuous unless one is in excellent physical condition. Therefore, for most people, the best activity level is 60 to 75 percent of the maximum heart rate. One's maximum heart rate is usually 220 minus his age. It can be determined more accurately by a treadmill test. The following chart lists recommended target zones.

Age (years)	Target Zone 60-75% (beats per min. )	Average Max. HR 100%
20	120-150	200
25	117-146	195
30	114-142	190
35	111-138	185
40	108-135	180
45	105-131	175
50	102-127	170
55	99-123	165
60	96-120	160
65	93-116	155
70	90-113	150

## **MONITORING THE PULSE**

To monitor one's heart rate, one should take his pulse rate at rest. If running, for example, walk fast for a few seconds.

Count your pulse rate for 15 seconds, and then multiply that number by four to get the number of heart beats per minute. Well-trained individuals start recovering from exercise after 15 seconds, at which point the heart rate drops dramatically.

## **VARIOUS ATHLETIC ACTIVITIES AND EXERCISES**

According to the American Heart Association, various athletic activities and exercises can be roughly grouped into three: those which are naturally vigorous, those which are moderately vigorous, and those which are not vigorous by nature. Exercises such as cross-country skiing, running, rowing and stationary cycling are naturally vigorous enough to condition your heart and lungs.

Swimming, bicycling, racquetball, soccer, tennis and walking are moderately vigorous. They can provide beneficial effects if performed briskly.

Activities such as bowling, golf, softball, volleyball and football are by nature not vigorous enough.

They still have certain benefits and can be enjoyable, help improve coordination and muscle tone, and help relieve tension. However, they neither condition the heart and lungs nor burn off many calories.

The chart given below has the average calories spent per hour by a 150-pound person involved in some selected activities. (A lighter person burns fewer calories. A heavier person burns more.

Bicycling 6 mph	240 cal.
Bicycling 12 mph	410 cal.
Cross-country skiing	700 cal.
Jogging 5 mph	740 cal.
Jogging 7 mph	920 cal.
Jumping rope per hour	750 cal.
Running in place per hour	650 cal.
Running 10 mph	1,280 cal.
Swimming 25 yds. /min. for an hour	275 lbs.
Swimming 50 yds. /min. for an hour	500 cal.
Tennis-singles per hour	400 cal.
Walking 2 mph	240 cal.
Walking 3 mph	320 cal.
Walking 4- mph	440 cal.

## **WARMING UP AND COOLING DOWN**

Regardless of the type of activity, the exercise routine should include a short warm-up and cool-down periods. A typical session would include 5 minutes of warm-up, 15 to 30 minutes of exercising in one's target heart rate, and 5 minutes of cool-down. One should begin exercising slowly to give the body a chance to limber up and get ready for more vigorous exercise. Start at a medium pace and gradually increase it by the end of the five-minute warm-up period.

With especially vigorous activity such as jumping rope, jogging or stationary cycling, begin the warm-up period with gentle stretching exercises. Some experts do not recommend any pre-exercise stretching, since the muscles and ligaments at the resting body temperature are stiff and susceptible to injury from stretching. They recommend stretching after exercise when the body is relatively warm. The cooling-down period is as critical to the safety and effectiveness of your workout as the warming-up.

After exercising within your target zone, gradually slow down.

For example, swim more slowly or change to a more leisurely stroke. One can also cool down by changing from jumping rope to walking. This allows the body to relax gradually. Abrupt stopping can cause dizziness. If one has been exercising strenuously, waste

products build up in the muscle cells. This causes sore muscles. The cooling-down period allows for the removal of this waste product. (Fig. 9)

### **ALWAYS CONSULT THE DOCTOR FIRST**

Before getting involved with any vigorous activity, it is advisable to check with your doctor, particularly if you are over 40 or have a medical condition that might need special attention.

Fig. 11: Ideal Body Weight for Women  
Metropolitan Height-Weight Tables Desirable for Men\*

Height	Small Frame	Medium Frame	Large Frame
5'2"	128-134	131-141	138-150
5'3"	130-136	133-143	140-153
5'4"	132-138	135-145	142-156
5'5"	134-140	137-148	144-160
5'6"	136-142	139-151	146-164
5'7"	138-145	142-154	149-168
5'8"	140-148	145-157	152-172
5'9"	142-151	148-160	155-176
5'10"	144-154	151-163	158-180
5'11"	146-157	154-166	161-184
6'0"	149-160	157-170	164-188
6'1"	152-164	160-174	168-192
6'2"	155-168	164-178	172-197
6'3"	158-172	167-182	176-202
6'4"	162-176	171-187	181-207

Frame size for men\*\*  
Height in 1 inch heels

5'2" to 5'3"  
5'4" to 5'7"  
5'8" to 5'11"  
6'0" to 6'3"  
6'4"

Elbow breadth for medium frame

2 1/2" to 2 7/8"  
 2 5/8" to 2 7/8"  
 2 3/4" to 3"  
 2 3/4" to 3 1/8"  
 2 7/8" to 3 1/4"

\* Weights at ages 25 to 59 based on lowest mortality.

Weight in pounds according to frame (in indoor clothing weight 5 lb., shoes with 1" heels).

\*\* Elbow breadth is measured with the forearm upward at a 90 degree angle.

The distance between the outer aspects of the two prominent bones on either side of the elbow is considered to be the elbow breadth. Elbow breadth less than that listed for medium frame indicates a small frame. Elbow breadth greater than that listed for medium frame indicates a large frame. Courtesy of Metropolitan Life Insurance Company. Reprinted with permission.

Fig. 10: Ideal Body Weight for Men

Metropolitan Height-Weight Tables Desirable for Women\*

Height	Small Frame	Medium Frame	Large Frame
4'10"	102-111	109-121	118-131
4'1 1	103-113	111-123	120-134
5'0@'	104-115	113-126	122-137
5'9'1"	106-118	115-129	125-140
5"2"	108-121	118-132	128-143
5"3"	111-124	121-135	131-147
5'4"	114-127	124-138	134-151
5'5"	117-130	127-141	137-155
5'6"	120-133	130-144	140-159
5'7"	123-136	133-147	143-163
5'8"	126-139	136-150	146-167
5'9"	129-142	139-153	149-170
5'10"	132-145	142-156	152-173
5'1 1	135-148	145-159	155-176
6'0"	138-151	148-162	158-179

Frame size for women\*\*

Height in 1 inch heels

4'10" to 4'11"

5'0" to 5'3"

5'4" to 5'7"  
 5'8" to 5'11"  
 6'0"

Elbow breadth for medium frame

2 1/4" to 2 1/2"  
 2 1/4" to 2 1/2"  
 2 3/8" to 2 5/8"  
 2 3/8" to 2 5/8"  
 2 1/2" to 2 3/4"

\* Weights at 25 to 59 based on lowest mortality. Weight in pounds according to frame (in indoor clothing weighing 3 lb., shoes with 1" heels)

\*\* Elbow breadth is measured with the forearm upward at a 90 degree angle.

The distance between the outer aspects of the two prominent bones on either side of the elbow is considered to be the elbow breadth. Elbow breadth less than that listed for medium frame indicates a small frame.

Elbow breadth greater than that listed for medium frame indicates a large frame.

Courtesy of Metropolitan Life Insurance Company. Reprinted with permission.

Fig. 12: Calorie Guide

FAST FOODS CALORIES		WHOLESOME FOOD	
	CALORIES		
	McDonald's		
Egg McMuffin	312	1 cup Yogurt	80
Hamburger	249	1 cup whole milk	170
Double Hamburger	350	1 cup skim milk	80
Cheeseburger	309	1 small apple	40
Quarter Pounder	414	1 cup watermelon	40
Quarter Pounder with cheese	521	1 small orange	40
Big Mac	557	1/2 small grapefruit	40
Filet-O-Fish	406	3/4 cup strawberries	40
French Fries	215	1 slice bread	70
Strawberry Shake	315	1/2 cup cereal	70
Pizza Hut			
Pizza-Cheese			

Thick Crust	1030	1 oz cheese	73
Pizza-Thin Crust	1005	1/2 cup carrots	40
1/2-13" thick crust	900	1/2 cup cucumbers	40
1/2-15" thin crust	1150	1 1/2 cups pl. pop	70
Arby s			
Junior Roast Beef	240	6 Saltine Crackers	70
Regular Roast Beef	429	1 Baked Potato	70
Super Roast Beef	705	1/3 cup corn	70
Hardee s			
Hamburger	250	1 oz slice chicken	73
French Fries	240	1/4 c. cottage chees	70
Burger King			
Whopper	630	1/2 banana	40
Fish Sandwich	744	1/2 cup applesauce	40
Cheeseburger	305	12 grapes	40
Chocolate Shake	365	1/2 c orange j.	40
Kentucky Fried Chicken			
One Drumstick	220	1 slice cold cuts	73
2-piece original dinner	595	2 Thl peanut butter	73
3-piece original dinner	830	6 small nuts	45
Dairy Queen			
Large Cone	340	1/2 bagel	70
Small Sundae	190	1/2 cup pineapple	70
Banana Split	580	2 Thl raisins	40
Onion Rings	300	1 med peach	40
Chili Dog	330	1/2 English Muffin	70
Ice Cream Sandwich	190	1/4 Cantaloupe	40
Dunkin Donuts			
Plain Cake Donut	240	1/2 cup broccoli	25
Plain Honey Dipped	260	1/2 cup cauliflower	25
Plain Roll with Glaze	250	1/2 c. grapefruit j.	40
Chocolate cake donut	240	1/2 c. mashed pot.	70

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Fig. 13: Daily Meal Plan

#### Daily Meal Plan/1500 Calories

Carbohydrate:	179 g	48% of total calories
Protein:	74 g	20% of total calories
Fat:	54 g	32% of total calories

These two menus show some of the ways the exchange lists can be used to add variety to your meals. Use the exchange lists to plan your own menus.

## Breakfast

2 Starch/Bread

(List 1)

1 Fruit (List 4)

1 Milk (List 5)

## Lunch

2 Starch/Bread

2 Meat (list 2)

## Sample Menu 1

1/2 c bran flakes cereal

1 slice whole wheat toast

1/2 banana

8 oz. skim or 1% milk

2 slices whole wheat bread

2 oz. lean beef

Fruit (List 4)

Fat (List 6)

## Dinner

2 Starch/Bread

3 Meat (List 2)

1 Vegetable

1 Fruit (List 4)

2 Fat (List 6)

## Evening Snack

1 Starch/Bread

1 Milk (List 5)

1 apple

1 Tbl. reduced-calorie  
mayonnaise or 1 tsp.

margarine

## Sample Menu 2

1 bagel (whole wheat or pumper.)

3/4 cup mandarin oranges, drained  
and mixed with 1 cup nonfat lemon  
yogurt  
1 Tbl. cream cheese

2 Starch/Bread 2 slices whole wheat bread 2 slices rye bread  
2 Meat (list 2) 2 oz. lean beef 2 oz. turkey breast  
1 Vegetable (List 3) Carrot sticks and \*radishes Sliced tomato, \*lettuce on  
sandwich

2 fresh plums  
1 Tbl. reduced-calorie  
Mayonnaise

1 small dinner roll 1 small dinner roll  
3 oz. baked chicken 1 (6") ear corn on cob  
1/2 cup cooked broccolil/2 cup green beans  
1 1/4 cup strawberries I cup cantaloupehoneydew melon salad  
I tsp margarine I tsp margarine for corn  
1 Tbi regular dress. 1 Tbi slivered almonds for  
\*Green salad green beans

3 graham squares 1 oz. puffed wheat or rice cereal  
8 oz. skim or 1 % milk 8 oz skim or 1 % milk

\* From List 7-Free Foods

## **HEALTH CONCERNS FOR BELIEVERS**

Knowledge of health and diseases is not just for physicians, but it is the obligation of each of us to know about our body, how it functions, how it becomes ill because it is our body and we will suffer when it is not functioning normally, and how it will affect our performance and future.

We are trustees of their bodies and if we do not discharge our trust efficiently, we will be questioned about it.

Our faith has a very deep effect upon our mental and physical health. Diseases result from the disassociation of the harmony between body and spirit, and our faith demands that this han-nony be maintained.

Health is defined as a state of complete physical, mental and social well-being and the ability to maintain a good quality of life. On the other hand, the disease state is one in which the body cannot function normally as a whole, or any organ of it, for a given period of time, and cannot enjoy the quality of life it is used to.

If uncorrected, it will lead to severe disability and death. Dimensions of wellness include physical fitness, nutritional awareness, stress awareness and management, environmental issues, and self-responsibility in all these areas.

According to statistics from the Centers for Disease Control, about one million people die each year from cardiovascular disease, i.e., heart attack and its complications.

Other conditions at the top of the list include cancer of the lung, breast and colon, about auto accidents 50,000 annually, 200,000 from AIDS, 40,000 homicides, various infections, diabetes and liver diseases. Smoking related deaths are about 350,000 every year.

In a survey published in USA Today, the top national concerns were the spread of AIDS, 43%, crime, 33%, drug abuse, 32%, and homelessness, 25%. Let us discuss some of these health concerns individually.

## **CORONARY ARTERY DISEASE**

The statistics for coronary artery disease in the US are grave. About one million people die every year, about two every minute. Some 680 daily hospitalizations take place for heart attacks. There are some 5.4 million people with diagnosed coronary artery disease. The direct health cost is about \$8 billion per year and the total economic cost is around \$60 billion. Coronary artery disease starts with angina, or chest pain, around the heart, which is due to blockage of the coronary arteries because of excessive damage to the lining or deposition of cholesterol. This causes thickening of the inside of the arterial wall, blocking the lungs and circulation, which results in reduced blood flow and decreased oxygen supply to the heart. Angina occurs when the oxygen supply is insufficient to meet the heart's demands.

Risk factors for coronary artery disease include smoking, which increases the heart rate, makes the heart work harder, and increases blood pressure.

Smoking also damages blood vessels and platelets and causes spasm in the coronary arteries. The second risk factor is excessive weight gain which places a strain on the heart and high cholesterol which causes cholesterol deposits to form inside the coronary arteries. Stress is also a contributing factor because during

stress the heart beats faster and blood pressure increases. High blood pressure is a major risk factor for the heart, putting a strain on patients with angina. Lack of exercise may also contribute to development of coronary artery disease.

The warning signs of angina include chest pain on the left side, sometimes with radiation to the arm and neck, usually with exertion but sometimes at rest, sometimes during emotional stress or exposure to cold, or after ingestion of a large meal. Usually, the chest pain is alleviated by rest and by taking nitroglycerin.

The confirmation of coronary artery disease is made by performing an electrocardiogram, exercise testing and obtaining an xray of the coronary arteries taken during cardiac catheterization. Heart attack occurs when the blood supply to a certain portion of the heart is completely cut off and the heart tissue is about to die.

The treatment for angina is with use of medications to improve circulation of the heart or to reduce the performance workload of the heart by cleaning the inside of the arteries, called angioplasty, or replacing the a blocked artery with coronary bypass surgery. Any of these procedures alone would not be sufficient to change the outcome unless attempts are made to control all of the risk factors for the heart, including smoking, obesity, high blood pressure, cholesterol, triglycerides, a sedentary lifestyle and diabetes, if present.

## **HIGH BLOOD PRESSURE**

Blood is pumped through the heart to different organs. However, the pressure of it has to be maintained in a satisfactory range. High blood pressure due to narrowing of the vessels or due to increase in heart rate may damage circulation and distant organs. A blood pressure of over 140/90 is considered high and about 130/80 would be considered normal.

Some 30 million Americans suffer from high blood pressure or hypertension. For the majority of them, the cause is not known, but about 10 percent have a curable cause related to hormonal imbalance. Sometimes the cause is related to problems of circulation in the kidneys. Excessive salt intake, obesity and other drugs like oral contraceptives can aggravate high blood pressure.

If not controlled, hypertension can cause stroke, heart failure, heart attack, kidney and eye damage the majority of patients with high blood pressure have no symptoms or very mild symptoms.

Therefore, an annual blood pressure check is advised. Some patients complain of headache, dizziness, palpitations fatigue. In more severe cases, the symptoms are

related to complications of hypertension of the heart, brain or kidneys. In the heart it causes can cause renal failure, can lead to osteoporosis, affect the outcome of pregnancy and development of children. One must control his diabetes as it is difficult to heal because of poor circulation.

Warning symptoms of diabetes include excessive thirst and urination, weight loss, blurred vision, fatigue, excessive appetite, increased sleep, and difficulty in healing. The tests needed to confirm the diagnosis are fasting and post meal blood sugars, a glucose tolerance test, and a glycosylated hemoglobin, in addition to a good physical examination.

The treatment in both types means a strict diabetic diet, physical activity, weight management, and depending on age, either insulin or oral hypoglycemic agents. With strict diabetic control the lifestyle and prognosis for a diabetic patient may be as good as for a nondiabetic patient, and the complications can be delayed if not prevented. However, strict diabetic control is difficult to achieve for most patients.

Anyone who has a family history of diabetes or is 20 pounds above his ideal body weight or has any of the aforementioned symptoms, must seek his physician's screening for diabetes.

## **HIGH CHOLESTEROL**

Cholesterol is a blood fat which is needed to make certain hormones and is part of our diet. However, excessive cholesterol damages the lining of the arteries and causes other problems. The normal range for total cholesterol varies with age, but on the average, it should be less than 180. There are other types of cholesterol.

One is HDL, which is the good type of cholesterol, and if it is high, the risk for heart disease is less. Then there are the triglycerides, which are another type of blood fat, which is more related to carbohydrate intake. If that is high, there is also a risk factor for heart disease but not as much as for cholesterol.

Cholesterol formation could be an inherited trait or due to dietary intake of high-cholesterol foods or high saturated fat intake. If the cholesterol is 260 or more, the risk for heart attack is increased 400%.

Therefore, one must have cholesterol screening very frequently.

Our diet nowadays is high in calories and contains an average of 435 mg. of cholesterol and 36 percent fat. The better diet would be that which contains fewer than 300 mg. of cholesterol and less than 30 percent fat, which should be of unsaturated or vegetable fat.

One must avoid eggs, not to take more than 2-3 eggs per week and many items which are made from eggs or butter such as cakes and pastries should also be avoided. Again, physical activity also reduces cholesterol and increases HDL.

The milk taken should be either skim or lowfat type.

## **SMOKING**

Smoking is becoming very common in underdeveloped countries while Western countries are becoming smoke-free societies. However, we should know that smoking is an addiction. As compared to nonsmokers, smokers have twenty times more risk of developing lung cancer, fifteen times more risk of heart attacks, and ten times more for esophageal cancer. Emphysema and bronchitis, peptic ulcer disease and poor circulation in the legs are also related to smoking.

During pregnancy if a woman smokes, she can cause abortion, fetal death and prematurity.

In the US about 350,000 deaths annually can be attributed to complications of smoking. Smoking costs the nation about \$13 billion in health care annually and \$25 billion in lost productivity. Thirty years ago, cancer of the lung was the tenth leading cause of cancer in women, but now it is the second. Although smoking is so bad, about \$1 billion a year is spent on promotion of cigarettes in this country and exporters of tobacco are given federal grants to produce more cigarettes and export them to other countries.

Smoking not only causes lung cancer, but also cancer of the mouth and esophagus. Chewing tobacco can especially cause cancer inside the mucosal lining of the mouth. Pipe smoking also has significant risk factors for mouth cancer as well as having a nicotinic effect on the heart. Emphysema is a bad lung disease and many patients are dependent on oxygen 24 hours a day to survive.

Many such patients cannot have any emergency surgery because the lungs would not be able to withstand anesthesia and they could have a delay in recovery during surgery if surgery were performed. Giving up smoking improves the performance of the lungs. It is never too late.

## **CANCER**

Cancer is another area of health concern for us. We must do our best to have a healthful lifestyle if we cannot avoid the pollution in the food and air. We can give up smoking to avoid lung cancer. We can eat a high-fiber diet to avoid colon cancer. Cervical cancer in women is related to having multiple sex partners and having sex at an early age. Again, this may have something to do with the

lifestyle. Similarly, breast cancer may be related to not breast-feeding or having a childless marriage.

About 50,000 Americans die on the highway due to auto accidents with 500,000 surviving every year with injuries. Most of the time auto accidents are related to driving too fast or too slow, changing lanes quickly, making left turns at intersections, driving under the influence of alcohol or drugs like Valium, and not wearing seat belts.

All these things are preventable conditions and we should do our best to save our lives and health, and those of our friends and families.

As the Quran says, "Anyone who saves one life is as if he has saved the life of whole mankind" (5:35).

## **STRESS**

Stress is a gift of modern society and American life. Everyone is under stress. Any change in our lives, whether good or bad, adds to stress. Our vacations cause stress as does changing jobs or schools. Everything is stressful and affects our health. It can cause peptic ulcers, irritable bowel syndrome, impotence, heart attacks, high blood pressure, reduced resistance to infection and personality disorders, not to speak of lack of sleep. Stress is even now being linked to cancer. In addition to these stressors that everyone has, we have some additional stress factors including attacks on our religion by the media calling us terrorists and fundamentalists, cultural incompatibility with local populations, and the generation gap between immigrant parents vs. our American-born children, and even practicing Islam like fasting or doing prayers while working full time. Coping with stress is a separate issue and there are guidelines from the Quran and Sunnah.

Prevention of chronic diseases includes recognition of warning symptoms of diseases and seeking medical attention. In one study, when asked what people do about their symptoms, sixteen percent said they did not do anything, sixty-three percent said that they used home remedies, only eighteen percent said they went to their physicians, and one percent went to the emergency room.

We are usually not good about taking care of our health by not going to a physician early. When we go to the emergency room, sometimes it is too late.

We should also insist on getting annual health checkups which should include an electrocardiogram, a blood pressure check, cholesterol, triglyceride and blood sugar checks, a chemistry profile with a CBC, urinalysis and general physical examination. These are the preventive aspects of health which, if combined with routine childhood vaccinations, good nutrition and exercise, will help maintain this body in a healthy state for the time that it has been destined to live.

For some, fear of disease may be a reason for righteousness, as mentioned by a sermon at St. Andrews Church in London in July, 1722. "The fear of disease is a happy restraint to a man's indulgence and vain desires. If men were more healthy, there is a great chance they would be less righteous." To the contrary, a Muslim's quest for physical health is in conformity with his quest for salvation. God says in the Quran, "O you who believe, fear God, and let a person see what He sends forth for the hereafter, and observe your duty to God! Lo! God is informed of what you do and be not like those who forgot God and God calls them to forget themselves" (59:18-19).

## **HEALTH GUIDELINES FROM THE QURAN\* AND SUNNAH\*\***

The Quran is not a book of medicine or of health sciences, but in it there are guidelines for health and treatment of diseases. Prophet Muhammad (PBUH) has been sent as an example to mankind so his Traditions in matters of health and personal hygiene are also a guide for his followers. We begin our discussion with the following verse, "Everything good that happens to you (O mankind) is from God. Everything evil that happens to you is from your own actions" (4:79). Pathology (disease) is defined by the famous pathologist, William Boyd, as "physiology (natural state) gone wrong." It is our tampering with the natural process that leads to unnatural outcomes.

The human body can be compared to some degree to a machine. The fascinating tape recorder has many mechanical and electronic parts, but life does not work until electrical current is passed through it. Similarly, in the components of the human body there are not only the anatomic parts and fluids but also the spirit (the soul). As the care of a machine requires keeping it clean, giving it some rest, an electric current of proper voltage, and using it carefully and wisely, so are the requirements for the body and of the body as a whole.

Before we come to the physical care of the human body, let us talk about the spiritual care which involves acts of worship: Faith (iman) cannot be equated with mere belief, nor prescribed prayer (salat) with supplication, nor ablution (wudu) with washing the hands, face and feet nor prescribed fasting (sawm) with fasting nor charity with poor-due (zakat) nor prescribed pilgrimage (hajj) with the visit (umrah) to Makkah. They are entities in themselves.

**Faith (iman):** The belief in God is the first and foremost need for spiritual stability. Belief in God includes belief in all His attributes, His angels, His books, the Day of Judgment, heaven and hell and belief that all good and evil is within His reach. In illness, according to Iman Ghazzali, the awareness of God increases and the human being grows closer to God by realizing his or her own weakness. Without true belief, neither our prayer, nor charity, nor fasting nor pilgrimage will

be accepted. The essence of belief is to rid ourselves of all false gods around us, or within us, and to worship no one except God alone.

**Prescribed Prayer (salat):** There are three health aspects of prescribed prayer:

**Ablution (wudu):** Washing all the exposed areas of the body, hands feet, face, mouth, nostrils, etc., five times a day is a healthy preventive procedure. Hand washing is emphasized more and more in hospitals now in order to prevent the spread of germs. Muslims were ordered to do so in the Quran (5:7) 1400 years ago. And for complete cleanliness, the bath ablution is advised (4:43).

**Recitation of the Quran:** It has a healing effect on the body, the mind and the heart. Its healing effect is due to the effect of sound (echo) and the meaning on an individual. The letter alif resounds as echoes to the heart and the letter ya resounds in the pineal gland in the brain. "O mankind! There has come to you a direction from your Lord and a healing for the (disease) in your hearts-and for those who believe a guidance and mercy!" (10:57). "We sent down in the Quran that which is healing and a mercy to those who believe: to the unjust it causes nothing but loss after loss" (17:82).

**Physical Exercise:** The movements in prescribed prayer are mild, uniform, and involve all muscles and joints. The caloric output helps keep the energy balance. Each cycle uses twenty calories.

**Charity (zakat):** The word itself means purification and growth. Here it is meant to imply the purification of legitimately earned wealth. Many of our crimes are committed with money or for love of money, and the love of money can cause violence in behavior. "And (man) is violent in his love of wealth" (100:8).

In Islam the ownership of wealth belongs to God. We are the disposers of that trust. It gives us peace of mind and helps us behave properly no matter whether we gain or lose materially. In either case, we are thankful to God.

**Prescribed fast (sawm):** Islamic fasting is prescribed as a way of training our mind and body in self-restraint. "O you who believe, fasting is prescribed to you as it was prescribed to those before you, so that you can learn self-restraint" (2:183). Therefore, during the period of the fast one may not only rid of the habit of constantly nibbling food, drinking coffee, smoking, but also of anger and excessive sexual indulgence. In fact, fasting not only gives rest to the stomach but also stabilizes the secretion of hormones which control our behavior.

**Pilgrimage to Makkah (hajj):** The moral behind this act is Prophet Abraham's submission and absolute surrender to God's Will. It provides the opportunity for

repentance and the social and political gathering of the community (ummah) depicting brotherhood and equality. However, this can be used for programming and testing us for physical endurance, a requirement for all able men and women. The long walks, the heat, the sun, the thirst, physical exercise, etc. is to remind us of the Day of Judgment. We should perform the pilgrimage when young and physically well rather than wait until old age. We should keep ourselves in good shape before and years after the pilgrimage.

After describing the pillars of faith as a basis for spiritual health, let us consider the maintenance of the physical structure in which the spirit resides.

**Nutrition:** God loves His creation so much that he is concerned even with what we eat and put in our bodies. Our muscles, bones, lungs, liver, brain and secretions are made from the raw products we eat. If we provide the body with junk raw products, it will not produce tough bones, strong muscles, a good pump (heart) and clean pipes (vessels). "O mankind! Eat of what is lawful and good on earth" (2:168). "Eat of the things which God has provided for you lawful and good, but fear God in whom you believe" (5:9 1). Forbidden to us are dead meat, blood and flesh of swine (5:4) and intoxicants (Quran 5:93, 2:219). The blood and meat of dead animals could be full of germs and other harmful elements like antibodies. Pork is high in cholesterol, salt and may have worms. Alcohol and other intoxicants cloud our mentation, our inhibitions and interfere with our normal capacity of judging good and bad.

The second component in nutrition (after permission of the lawful and prohibition of the unlawful) is moderation of the lawful. Obesity is a major American problem, a form of malnutrition, affecting millions of people, of all ages. 99% of obesity is due to overeating. God advises as to be moderate in consumption. "But waste not by excess for God loves not the wasters" (7:3 1). "Eat of the good things we have provided for your sustenance, but commit no excess therein, lest my wrath should justly descend on you, and those whom descends my wrath do perish indeed" (20:81). Prophet Muhammad (PBUH), advised us to leave one third of our stomach empty when taking our meals.

Certain types of food i.e. are especially emphasized in the Quran (36:57, 43:73, 16:67, 50:68). "And (from) the fruits of date palm and grapes you get wholesome drink and nutrition: behold in this is also a sign for those who are wise" (16:67). Fruits are low in calorie, high in vitamins, minerals and fiber. Fruits have fructose, not sucrose. In a recent study by Dr. Anderson, fructose has been found to cause no rise in blood sugar. Rather it was found to lower the high blood sugar of diabetics (honey is fructose).

**Cleanliness:** God is pure and likes purity.

He is clean and likes cleanliness. Therefore, cleanliness of body and mind is stressed in the Quran (4:43, 5:7). Brushing our teeth is not a new invention of the last two hundred years. This was stressed as part of our daily routine by Prophet Muhammad (PBUH). He also advised us on flossing (khilal) as is now being advised by modern dentists. In fact, he is known to have said that if he were not afraid to cause hardship for his followers, he would have advised them to brush their teeth before each prayer i.e. five times a day. Cleanliness of our mind is prerequisite to total cleanliness (body and mind).

### **Value of Exercise in Maintaining Health:**

Although we do not find much in the Quran about specific exercises, the Prophet's life provides ample recommendations. He advised Muslims to teach their children swimming, archery and horse backriding. He, himself used to walk at a fast pace and on two occasions at least, even raced with his wife, Ayisha. Most importantly, he used to work with his hands whether at home, in the kitchen or with his companions collecting wood for fire or fighting against the enemy.

It is a pity that Muslim men and women have become sedentary, and because of excessive consumption of starches, obesity has weighed them down. A Muslim, man or woman, should always keep themselves fit physically to strive in the cause of God in peace or war.

### **THE STATE OF DISEASE**

Many of the common chronic illnesses- coronary heart disease, hypertension, diabetes, peptic ulcer disease, obesity and depression have also common man-made etiology, that is rich food, too much food, too much salt, too much sugar, smoking, stress and alcoholism. If we give up excessive salt, sugar and cholesterol and do not drink or smoke, and be active, it is possible that the heart will not be worn down from inside.

### **WHAT SHOULD A MUSLIM DO WHEN DISEASE IS CONFIRMED?**

Accept it as a will of God as punishment for his sins and ask Him to remove the affliction. "If God touches thee with affliction, none can remove it but He. If He touches thee with happiness He has power over all things" (6:17).

Many Muslims will not seek early medical attention, contrary to the Prophet's practice and teaching. Usamah bin Sharik reports, "I was with the Prophet when some Arabs came to him asking, 'O Messenger of God, should we take medicine

for disease?' He said, 'Yes, O you servants of God, take medicine as God has not created a disease without creating a cure for it except for one.' They asked which one, he replied, 'Old age.'"

Increase your knowledge of health and disease, of medications and side effects. This knowledge is not a monopoly of doctors.

You can have it and use it in preventing illness, recognizing it early when symptoms appear, seeking early medical attention, then monitoring the course of disease, implementing the treatment (i.e. knowledge of diet for diabetics) and recognizing side effects of the medicine.

In summary, our healthy body is a gift from God. We are the trustees. We should not misuse it, nor provide wrong raw material for our bodies. We should maintain this delicate and sensitive machine in superb condition to really enjoy God's blessings in this life!

\* The Muslim holy book, the last revealed scripture.

\* The Traditions or sayings of Prophet Muhammad.

## **ISLAMIC PERSPECTIVE ON STRESS MANAGEMENT**

While stress may be necessary for human survival, the excess of it certainly affects our health and productivity. It is claimed that in the United States nearly 20 million people suffer from stress in terms of attributing their illness or symptoms to it. Stress related compensation costs nearly \$200 million per year. Loss of productivity and stress related illness directly or indirectly amounts to \$50 billion per year. Many corporations and individuals are spending nearly \$15 billion a year on the stress management of their employee. (Newsweek 4-25-88). There is enough medical evidence to link stress to the causation of peptic ulcer disease, hypertension, coronary artery disease and depression. In addition, many common problems like tension headache, insomnia, impotency (in men), frigidity (in women), are stress related. There is now some evidence to suggest that stress is also related to the causation of diabetes, the suppression of immune system and the development of cancer. In our day to day life, stress affects peace at home, job performance at work, grades in school and even our eating and mating behavior.

## **WARNING SIGNS OF STRESS**

The earliest warning signs of stress is irritability, mood swings, difficulty in sleeping, fatigue, lack of concentration, abdominal distress, extreme sensitivity to

criticism, weight gain or weight loss, fear of failure, poor appetite or hunger, and increase dependence on tranquilizers or alcohol for sleep.

## **CONDITIONS WHICH CAUSE STRESS**

Psychiatrists have identified some fifty stressors. In fact any change, good or bad, is stressful. A change in job or job description, in school, residence, financial status, loss or gain of a family member or close friend, injury or illness, national calamity or news of riots or violence all can be extremely stressful. Muslims living in a non-Muslim society may acquire some additional stress. These may include such factors as preserving their identity, practicing Islam (i.e. in food matters or timing of prayer), defending Islam on a hostile media and settling conflicts between family members: the spouse, parent/child, and practicing/non-practicing factions.

## **WHO IS PRONE TO STRESS?**

Although stress spares no one including children, certain professions get more than their share.

They include the sales person, the stock broker, the secretary, the inner city school teacher, the air traffic controller, the medical intern, the police officer and those handling complaint departments. It is interesting to note that qualities like being ambitious, compulsive, high achieving, productivity oriented are looked upon as signs of efficiency by the employer, are also the type A personality traits, so dangerous to our health. So the art is to have these qualities, with a cool type B personality in order to live happily and have a longer life.

## **COPING WITH STRESS**

Although we are all exposed to stress, why can some of us cope with it better than others? Is it the way we deal with the stressor or the way we are built? There is some evidence to suggest that some of us may be genetically predisposed to depression or have deficiency in the level of neurotransmitters, the mood regulating hormones, or just do not produce enough adrenalin on demand.

A person's religious belief has an important bearing on his personality and his outlook in life. By putting the trust in God, a believer minimizes the stress on him by reducing his responsibility and power to control his failures.

Proven ways to handle stress as being practiced now range from meditation, sleep, exercise, socialization, biofeedback, psychotherapy and tranquilizers. In this essay

we are going to discuss how to deal with stress in the light of the Quran and the Sunnah.

Psychologically the stress results from the following factors.

- a. Fear of the unknown, and our inability to recognize, foresee and control it.
- b. Loss of things and people in our life dear to us and our inability to recover these losses or accept them.
- c. Our inability to see through the future. In fact we might be more stressed if we do see the future.
- d. Conflicts between the mind and reality and our failure to accept the reality (i.e. the phase of denial). It is the lack of inner peace due to our internal conflicts which leads to the external disturbances in our behavior and affects our health.

Let us examine how the Quran deals with such situations. Our losses are a part of trial for us, "Be sure We will test you with something of fear and hunger, some loss in goods or lives, but give glad tidings to those who are steadfast, who say when afflicted with calamity, 'To God we belong and to Him is our return.' They are those on whom (descend) blessings from God and mercy and they are the ones that receive guidance" (2:155),

Whatever we are given is a gift from God. We are not its owner. Everything belongs to God and returns to Him. So if we do not own these things, why mourn their loss or wax proud on receiving them.

Only God knows what our ultimate destiny is. We cannot peek into our future. We do, however, have a limited free will. We are free to choose between good or bad, to believe in God or not to believe in Him, but we have no control over future not related to our ability to act in the present- whether my wife will have a son or daughter, whether his /her eyes will be brown or black, or whether I will have an accident tomorrow or not. Worrying over such things is of no use.

Rejection of faith in the Quran is described as a disease. Its cause being arrogance and reluctance to accept truth.

"In their heart there is a disease and God has increased their disease and grievous is their penalty because they lie to themselves" (2: 10).

Thus when a man lies to himself, he creates an inner conflict between his heart and mind. In order to contain that conflict, the mind sends signals to glands for secretion of hormones like adrenalin which leads to rapid heart rate, perspiration,

tremor, the basis of a lie detector test. This conflict could be due to "small" crimes like theft or adultery, or big crimes like rejection of God.

### **THREE STAGES OF SPIRITUAL DEVELOPMENT**

The Passionate Soul (nafs ul-ammara): "I do not absolve myself. Lo the (human) soul is prone to evil, save that whenever my Lord has mercy. Lo, my Lord is forgiving; merciful" (12:53). This soul inclines toward sensual pleasure, passion and self gratification, anger, envy, greed, and conceit. Its concerns are pleasures of body, gratification of physical appetite and ego. In a Tradition we are told, "Your most ardent enemy is your evil self which resides within your body" (Bukhari). If this evil soul is not checked, it will lead to unusual stress and its resultant effects.

The Reproaching Soul (nafs ul-lawammah): "Nay, I swear by the reproaching soul" (75: 1). This soul is conscious and fully aware of evil, resists it, asks for God's grace and pardon, repents and tries to amend and hopes to achieve salvation. "And (there are) others who have acknowledged their faults. They mix a righteous action with another that was bad. It may be that God will relent toward them. Lo God is relenting, merciful" (9:102). "There are two impulses within Us. One, spirit, which calls towards good and confirms the truth. He who feels this impulse should know that it comes from God. Another impulse comes from our enemy (the devil), which leads to doubt and untruth and encourages evil. He who feels this should seek refuge in God from the accursed devil" (hadith). This soul warns people of their vain desire, guides and opens the door to virtue and righteousness. It is a positive step in spiritual growth.

The Satisfied Soul (nafs ul-mutmainnah): "O (you) soul in (complete) rest and satisfaction.

Come back to your Lord, well pleased (yourself) and well pleasing unto Him. Enter you then among My devotees, enter you in My heaven" (89:27-30). This is the highest state of spiritual development. A satisfied soul is in the state of bliss, contentment and at peace. The soul is at peace because it knows that in spite of its failures in this world, it will return to God. Purified of tension, it emerges triumphant from the struggle and resides in peace and bliss.

### **WHAT SHOULD WE DO IN PANIC AND DESPAIR?**

In panic situations non-believers behave differently from believers. They have no one to turn to, to ask for mercy and forgiveness. They know and believe not in any life other than this worldly life, over which they have no control. Naturally they get more depressed which in turn leads them to even more wrongdoing. If they

were used to casual drinking, after drinking, they will increase their consumption of alcohol and end up as alcoholics or habitual criminals.

In a state of depression a believer, on the other hand, is advised to do the following: Increase remembrance of God (dhikr): "He guides to Himself those who turn to Him in penitence those who have believed and whose heart have rest in the remembrance of God. Verily in the remembrance of God, do hearts find rest" (13:27-28).

Be constant in prayers: "O you who believe, seek help with steadfastness and prayer For God is with those who are steadfast" (2:153).

Pray to God for Forgiveness: "And I have said: Seek forgiveness from your Lord. Lo He was ever forgiving" (71:10). In addition to the above believers are also expected to constantly struggle to better ourselves. "Surely God does not change the condition in which people are until they change that which is in themselves" (13:11).

### **QURANIC RECITATION IN REDUCING STRESS**

"O mankind! There has come to you a direction from your Lord, and a healing for (the disease in your) heart, and for those who believe a guidance and mercy" (10:57). The echo of sound has a medical effect and is now widely utilized. The recitation of the Quran or listening to the same has a wholesome effect on the body, the heart and the mind. It is said that the letter 'alif' echoes to the heart and the letter 'ya' echoes in the pineal gland in the brain. Dr. Ahmed El Kadi of Akber Clinic (Panama City, Florida) conducted and has published the effects of listening to the Quranic recitation on physiological parameters i.e. the heart rate, the blood pressure and the muscle tension and reported improvement in all, irrespective of whether the listener is a Muslim or non-Muslim, Arab or non-Arab. Obviously it can be postulated that those who can understand and enjoy the recitation with a belief in it as the Word of God will get maximum benefit.

### **PROPHET MUHAMMAD'S PRAYER DURING STRESS**

All the prophets, being human beings, had to undergo tests and trials which resulted in temporary stress.

They constantly remembered God and received peace through His remembrance. Prophet Muhammad (PBUH) for example, himself used and advised his followers to use the following prayers in times of distress.

"God is sufficient for us. He is an excellent guardian. We repose our trust in God."

"Surely we belong to God and to Him shall we return. O God, I beseech you for the reward of my hardship. Reward me and compensate me for it with something good."

## **EFFECTS OF PROHIBITED FOODS, INTOXICANTS AND INGREDIENT ON HUMAN HORMONES AND BEHAVIOR**

It is not required of a believer to always find a scientific justification for divine prohibitions.

However, if they look and find it, they must share the information-that will increase their faith. On the contrary, however, lack of confirmation should not cast doubt on the authenticity of the Quran. I We believe that all Quranic statements are true. If science has not confirmed some of them yet, it will do so in the future. It may be that it needs to examine its data more deeply or repeat the experiment. For the benefits of non-medical readers, before we discuss hormonal and behavioral effects of prohibited food, intoxicants and ingredients, we need to define some medical terms and inter-relationships that are involved in this discussion.

### **HORMONES**

These are the powerful secretions of the endocrine (internal) glands. They control the functions of all organs and even individual cells. They are made from protein and are peptides or sterol in nature. The endocrine glands are hypothalamus which secrete various releasing hormones for the pituitary.

The pituitary secretes hormones for target endocrine glands. Both of them are located inside the brain.

Target endocrine glands are thyroid, which are located in the neck and secrete thyroid hormones. Thyroid hormones control our metabolism, energy level, and temperature tolerance. Behind them are para-thyroid glands which control our calcium metabolism. In the abdomen are the adrenal glands above the kidneys which secrete cortisone, the life-saving essential hormone, and catecholamines and aldosterone which control our blood pressure and heart rate.

Steroids and catecholamines are derived from cholesterol. Also in the abdomen are the pancreas which secretes insulin which lowers blood sugar and glycogen which raises a low blood sugar.

Lower down in the pelvis are gonads, ovaries in women, and testes in men, which secrete estrogen, progesterone and testosterone respectively. All these hormones

have internal control and influence each other. They control our growth, muscle mass, bone development, temperature tolerance, blood pressure, energy, fertility, sex desire, thirst, and well being in general.

## **HOW DO HORMONES AFFECT BEHAVIOR**

The site of secretion of releasing hormone and of neurotransmitter in the brain are the same in the hypothalamic area.

Most of the psychotropic drugs act by either increasing or decreasing the neurotransmitter levels i.e. epinephrine, nor epinephrine, serotonin, dopamine or endorphin level in the hypothalamic area.

Similarly neurotransmitters influence hormone secretion.

Clinically we see various behavioral manifestations in endocrine disorders. Hypoglycemic patients (low blood sugar) suffer from depression and poor mental concentration. Patients with low thyroid have impotency and depression. Those with high thyroid have agitation, irritability, and lack of sleep. Patients with low cortisone (Addison disease) have severe depression, while with high cortisone have hallucinations and psychosis.

Patients with high testosterone have been claimed to have criminal tendencies (i.e. rapists) while those with low testosterone have problems in behavior adjustment. Patients with calcium and sodium imbalance likewise have marked mental changes. Physiologically boys and girls differ in behavior i.e. aggressive versus passive (playing with mechanical toys and guns versus dolls) due to differences in their sex hormone even in prepubertal age.

This becomes more obvious after full sex differentiation takes place. In fact by changing the sex hormone level of a given sex, one can change not only the sexual behavior but the aggressiveness of a particular sex.

Homosexual males have been noted to have less male sex hormone, and on the other hand repeated male sex offender can be "cured" by castration or by injection of the female hormone progesterone. In one experiment female rats whose mothers were treated with testosterone while pregnant, showed male behavior pattern of threatening peers, rough play, and increased sexual activity as compared to the control rat.

This shows that the effect of testosterone not only affects the individual but the offspring as well. In humans, girls with congenital adrenal hyperplasia (excessive testosterone secretion) at the age of post puberty, show a tomboy-attitude with

preference for rough sports, preferring boys as playmates, and low interest in dolls and baby care! Sexual behavior is not only affected by testosterone, but also by the pineal gland which is turned off and on by light and darkness.

Hormones, not directly, but indirectly control blood sugar, calcium, sodium balance, affect behavior in general anger, love, anxiety, panic attacks and agitation. The hyperactivity in children could be due to low blood sugar many food preservatives and coloring agent like nitrates and dyes.

## **HORMONAL AND BEHAVIORAL EFFECT OF PORK AND FAT INGESTION**

Pork and pig fat is not only prohibited in the Quran, but also in the Bible because "swine were designed to be scavengers, to eat up filth." In the Old Testament, Leviticus Chapter 7-8, it is mentioned about swine, "Though he divides the hoof and be cloven-footed, yet he chews not the cud, he is unclean to you. Of their flesh shall you not eat." There is no mention in the Bible that Jesus ever ate pork in his life. It was Paul who declared all food and drink permissible saying, "To the pure, everything is pure."

### **The Habits of Swine**

To get a first hand idea, I interviewed farmers of Fisher, Indiana, who breed swine. According to them, "Swine is cheaper to breed, since it does not require pasture. It can live on manure and other such items including dead meat. In fact it can eat its own feces. Their sexual habits are also different than other animals like cows, sheep and goats.

They have very little shame i.e. engage in sex acts anytime any place while others sometime wait for darkness. The female hog is very aggressive in sexual activity. When she is in "heat" she does not care about anything (i.e. food or privacy) until she has sex. Swine, also lick the genitalia of their partners after sex like dogs, but unlike other mammals like cows, sheep or goats."

### **Why is Pork Fat Different From Other Animal Fat?**

Fats are lipids which are a source of energy. They can be of vegetable source or animal source. Triglycerides are neutral fats with 1 molecule of glycerol and 3 fatty acids. The fatty acids can be saturated or unsaturated. The more unsaturated fats have high melting points.

The iodine value of fat gives the degree of unsaturation. The iodine value of lard is 65, beef 45, and mutton 32. After ingestion, melsification of fat takes place in the stomach (acted on by gastric lipase). Pancreatic lipoprotein lipase hydrolysis of

triglyceride into glycerol and fatty acid then takes place. The fatty acid is used by various tissue like muscles, heart, kidney and liver for energy source, while glycerol is stored in the adipose tissue. Herbivorous (plant eating) animals have unsaturated fatty acid on the position 2 of the triglyceride (TG) molecule, while the carnivorous (meat eating) animals have saturated fatty acid at position 2. Pancreatic lipase (PL) cannot hydrolyze TG molecule if saturated fatty acid are at position 2. Fat of dogs, rats, cats and pork have saturated fatty acid on position 2. If a person eats the fat of a herbivorous animal, the fat will be hydrolyzed, absorbed, and then resynthesized and stored as human fat, while that of carnivorous fat will not be hydrolyzed and therefore has to be deposited in humans as pork fat in the adipose tissue.

### **What Has Deposition of Pork Fat to Do With Hormone and Behavior in Humans?**

Circulating hormones are in bound form and free form. The free form has to be attached to the receptor in fat tissue before becoming active. Obesity decreases the number of receptors. Therefore hormones cannot utilize them. Therefore, if the hormone is insulin, it leads to diabetes (type 2), and if it is testosterone, it leads to subfertility and amenorrhea. The amount of fat also controls hormone release.

Therefore we see menarche is delayed in athletic girls with less fat, and occurs early in sedentary overweight girls. It can be postulated that in humans who have pork human fat deposit, there is derangement in the binding of hormones.

Therefore they have higher levels of circulating active hormones.

It is possible that sexual promiscuity and deviant sexual practices of pork eating society is due to what they eat! After all, it has been said by nutritionist, "You are what you eat." Since this is an essay on hormones and behavior, the effect of pork on cholesterol, sodium and the relationship to heart disease are not mentioned here.

### **EFFECTS OF DEAD MEAT AND BLOOD INGESTION**

Dead meat is the meat of an animal which died before slaughtering and its blood was not drained out. Blood ingestion is not only the drinking of blood, prevalent in the days of ignorance in Arabia or even now in Africa, but also the blood which is retained inside the meat by improper killing of the animal. All hormones and antibodies are retained in the blood.

All infective organisms, including virus, flourish in the blood. Therefore ingestion of such will be dangerous. It may also induce animal instincts similar to those found in carnivorous animals like dogs, cats and lions.

## **HORMONAL EFFECTS OF ALCOHOL**

Both in acute and chronic alcoholism, endocrine glands are affected.

Hypoglycemia may result in acute alcoholism which may be severe and can lead to coma. This should be recognized and treated with IV dextrose since it may not respond to glycogen. Low magnesium with resultant low calcium is another effect of resulting in poor concentration, muscle twitching and even seizure. Increase in urine flow is due to suppression of antidiuretic hormone.

Chronic alcoholism leads to pancreatitis with failure of pancreatic endocrine system sometime (diabetes) and exocrine gland (malnutrition). This leads to protein deficiency leading to reduced production of testosterone. This leads to impotency, gynecomastia in men and amenonhea in women. Alcoholics can also have a pseudo (false) cushing syndrome. Alcohol liver disease causes increased clearance of testosterone with testicular atrophy leading to true hypogonadism. Sperm formation is also affected leading to infertility. Infants bom to alcoholic mothers can also have undescended testes and labial hypoplasia. In addition, the cortisol levels are increased during withdrawal while LH and LH-RH levels are suppressed during chronic alcoholism.

## **BEHAVIORAL EFFECTS OF ALCOHOL**

Alcohol being a CNS depressant, depresses both facilitatory and inhibitory pathways. It is the suppression of the latter that discards the shame and removes control. Therefore, what an average person does not normally do i.e. use abusive language, undress in public, etc. he may perform under the influence of alcohol. There are more serious behavioral disorders described to include brain dysfunction in 50-70%: memory loss, depression, both acute and chronic, high suicide rate, mood fluctuation, delirium tremulous (DTS) in withdrawal state, and blackout spells during acute drinking. One third of all auto accidents are due to alcoholism.

Under the influence of alcohol, mental judgment and motor skill are affected. Sometime the level of consciousness is also affected. Alcohol has been also found to be at the root of family violence, sexual violence, rape, assault, and child abuse.

Alcohol is not aphrodisiac as it is claimed. It not only depresses the central nervous system effect on libido but actually lowers the penile blood flow and tumescence (swelling) thereby decreasing performance.

## **EFFECTS OF NARCOTICS (COCAINE AND MARIJUANA) ON HORMONES AND BEHAVIOR**

Both LSD and cocaine causes decrease in plasma testosterone and LH.

The aphrodisiac effect is due to local anesthesia, causing prolonged erection and central stimulation causing general well being. Also by inhibiting inhibitions, they encourage engagement in unusual sex acts like sodomy or oral-genital sex.

Psychologically they cause mood elation and a false sense of euphoria followed by depression, anxiety and agitation.

Panic attacks, suicidal tendencies, violent behavior are not uncommon.

Chronic usage may lead to schizophrenia, paranoia, and a variety of psychiatric disorders. Even infants bom to cocaine mothers show signs of withdrawal.

## **EFFECTS OF INGREDIENTS ON HORMONES AND BEHAVIOR**

If prohibited ingredients i.e. pork, lard, alcohol, cocaine etc., are consumed, the effect will be as described earlier, though because of the small quantity it may be slow and cumulative. More serious are items like sugar which causes reactive hypoglycemia, sodium which may lead to hypertension, nitrates and nitrates (used in meat preservation) linked to cancer, DES (diethylstilbestrol, a female hormone given to cattle to increase fat and muscle content) linked to vaginal and cervical cancer in women, and artificial sweeteners like saccharin related to bladder cancer in rats, and asperate related to brain damage.

## **CONCLUSION**

More research is needed on all of the above areas especially those affecting the life style of Muslims to determine their affects more accurately. Though usage of prohibited items are not commonly found in Muslims, the dangers also may come to their health and spirits by the effects of nonprohibited items like western rock music, dress (i.e. tight jeans affecting testicular temperature) and sexual practices, and cigarette smoking.

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## **MEDICAL ASPECTS OF ISLAMIC FASTING**

There are over 1 billion Muslims in the world, including about 8 million in North America. The majority of them observe total fasting (no food or water) between dawn and sunset during the month of Ramadan. They do so not to lose weight or for any medical benefit, but because it is ordained in the Quran which says, "O you who believe! Fasting is prescribed to you, as it was prescribed for those before you (i.e. Jews and Christians) so that you may (learn) self-restraint" (2:183).

According to Islamic Law, children below twelve, sick patients, travelers and women who are menstruating or nursing a baby are exempt from fasting.

In addition to staying away from food or water for the whole day, they are asked to stay away from sex, smoking or misconduct during the time of the fast.

In addition, they are encouraged to do more acts of piety: prayer, charity, or reading the Quran during this month.

Food is needed by the body to provide energy for immediate use. This is done by burning up carbohydrates, that is, sugar. Excess of carbohydrates which cannot be used are stored up as fat tissue in the muscles and as glycogen in the liver for future use. Insulin, a hormone from the pancreas, lowers blood sugar and diverts it to other forms of energy storage, that is, glycogen. To be effective, insulin has to be bound to binding sites called receptors. Obese people lack receptors. Therefore, they cannot utilize their insulin. This may lead to glucose intolerance.

When one fasts (or decreases carbohydrate intake drastically), it lowers one's blood glucose and insulin level.

This causes a breakdown of glycogen from the liver to provide glucose for energy needs and break-down of fat from adipose tissue to provide for energy needs. On the basis of human physiology described above, semi-starvation (ketogenic diets)

have been devised for effective weight control. These diets provide a calculated amount of protein in divided doses with plenty of water, multivitamins, etc. These effectively lower weight and blood sugar, but because of their side effects, should be used only under the supervision of physicians.

Total fasting reduces or eliminates hunger and causes rapid weight loss. In 1975, Allan Cott in his *Fasting as a Way of Life*, noted, "Fasting brings a wholesome physiological rest for the digestive tract and central nervous system and normalizes metabolism." It must be pointed out, however, that there are also many adverse effects of total fasting. That includes hypokalemia and cardiac arrhythmia associated with low calorie starvation diets used in unsupervised programs.

## **STUDIES ON ISLAMIC FASTING**

Dr. Soliman from University Hospital, Amman, Jordan has reported that during the month of Ramadan 1404 AH (June-July, 1984 AD) healthy Muslim volunteers@2 males and 26 females ranging in age from 15-64 and 16-28 years respectively-were studied. They were weighed and their blood levels of cortisol, testosterone, Na, K, urea, glucose, total cholesterol, high density lipoprotein (HDL), low density lipoprotein (LDL), triglycerides (TG) and serum osmolality were measured at the beginning and at the end of Ramadan. There was significant loss of weight in males from a mean of 73.8 +/-6.2 kg to 72.0 +/-7.1 kg (P less than 0.01) and in females from 55.2 +/-4.8 to 54.6 +/-4.2 kg (P less than 0.05). Blood glucose levels rose in males from 77.7 +/-23.6 mg/dl to 90.2 +/-31.2 mg/dl (P less than 0.05) and in females from 76.0 +/-7.6 mg/dl to 84.5 +/-11.1 mg/di (P less than 0.002). All other parameters did not show significant changes.

Dr. F. Azizi and his associates from the University of Medical Sciences, Tehran, Iran has reported the following. Serum levels of glucose, bilirubin, calcium, phosphorus, protein, albumin, FSH, LH, testosterone, prolactin, TSH, T4, T3, and T3 uptake, as well as prolactin and TSH responses to TRH were evaluated in a group of nine healthy men before and on the 10th, 20th, and 29th days of Ramadan.

Mean body weight decreased from 65.4 +/- 9.1 to 61.6 +/- 9.0 kg at 29th day. Serum glucose decreased from 82 +/- 4 mg/dl on the 10th day, and increased thereafter (76 +/- 3 and 84 +/- 5 on the 20th and 29th days of fasting respectively).

Serum bilirubin increased from 0.56 +/- 0.17 to 1.43 +/- .52 mg/dl on the 10th day, and decreased thereafter (I. I. +/- 0.4 on the 20th and 29th days). All changes returned to basal values four weeks after fasting. There were no significant changes in serum levels of Ca, P, protein, albumin, and any of the measured hormones. Prolactin and TSH responses to TPH were also unaltered.

He concluded that 1) intermittent abstinence from food and drink for 17 hours a day for 29 days does not alter male reproductive hormones, hypothalamic-pituitary-thyroid axis or peripheral metabolism of thyroid hormones and 2) physicians caring for Muslims should be aware of changes of glucose and bilirubin during Ramadan.

Therefore it is concluded from the above two studies that the prescribed fast does not cause any adverse medical effect and on the contrary, may have some beneficial effect on weight and lipid metabolism.

## **WHY ISLAMIC FASTING IS DIFFERENT FROM OTHER TYPES OF FASTING**

The prescribed fast of Muslims is different from the so-called "Diet Plans" because it has beneficial features of both plans. Its unique medical benefits are due to the following factors:

1. As compared to other diet plans, fasting in Ramadan does not cause malnutrition or inadequate calorie intake since there is no restriction on the type or amount of food intake before beginning the fast or upon ending the fast at sunset. This was confirmed by M.M. Hussaini in 1974, when he conducted dietary analysis of Muslim students at the University of North Dakota, State University at Fargo during Ramadan. He concluded that calorie intake of Muslim students during fasting was at two-thirds of NCR-RDA.
2. Fasting in Ramadan is voluntarily undertaken. It is not a prescribed imposition from a physician. In the hypothalamus part of the brain there is a center called "lipostat" which controls the body mass.

When severe and rapid weight loss is achieved by starvation diet, the center does not recognize this as normal and, therefore, reprograms itself to cause weight gain rapidly once the person goes off the starvation diet.

So the only effective way of losing weight is slow, self-controlled, and gradual weight loss which can be achieved by modifying our behavior and changing our attitude about eating especially by eliminating excess food. Ramadan is a month of self-regulation and self-training in terms of food intake thereby causing hopefully, a permanent change in lipostat reading.

3. With the prescribed fast, Muslims are not subjected to a diet of selective food only (i.e. protein only, fruits only etc.). An early breakfast, before dawn is taken and then at sunset the fast is broken with something sweet i.e. dates, fruits, juices to offset any hypoglycemia followed by a regular dinner later on.

4. Additional prayers are prescribed after dinner which help metabolize the food. Using a calorie counter, I counted the amount of calories burnt during the special night prayer of Ramadan (tarawih). It amounted to 200 calories.

This form of prayer as well as the five daily prescribed prayers use all the muscles and joints and can be considered a mild form of exercise in terms of calorie output.

5. Ramadan fasting is actually an exercise in self discipline. For those who are chain smokers or who nibble food constantly, or drink coffee every hour, it is a good way to break the habit.

6. The psychological effect of Ramadan fasting are also well observed by the description of people who fast.

They describe a feeling of inner peace and tranquility. The prophet advised those fasting, "If one slanders you or aggresses against you, tell him 'I am fasting.'" Thus personal hostility during the month is minimal. The crime rate in Muslim countries falls during this month.

It is my experience that within the first few days of Ramadan, I begin to feel better even before losing a single pound.

I work more and pray more. My physical stamina and mental alertness improve. As I have my own lab in the office, I usually check my chemistry, that is, blood glucose, cholesterol, and triglyceride before the commencement of Ramadan and at its end. I note marked improvement at the end. As I am not overweight, thank God, weight loss is minimal.

The few pounds I lose, I regain soon after. Fasting in Ramadan will be a great blessing for the overweight whether with or without mild diabetes (Type 11). It benefits those also who are given to smoking or nibbling. They can rid themselves of these addictions in this month.

### **FASTING FOR MEDICAL PATIENTS: SUGGESTED GUIDELINES**

As mentioned earlier, the sick are exempt from fasting. But some, for whatever reasons, do decide to observe fasting. For physicians treating Muslim patients, the following guidelines are suggested.

**Diabetic Patients:** Diabetics who are controlled by diet alone can fast and hopefully, with weight reduction, their diabetes may even be cured or at least improved. Diabetics who are taking oral hypoglycemia agents like Orinase along with the diet should exercise extreme caution if they decide to fast.

They should reduce their dose to one-third and take the drug not in the morning, but in the evening at the time of ending the fast. If they develop low blood sugar symptoms in the daytime, they should end the fast immediately. Diabetics taking insulin should not fast. If they do, at their own risk, they should do so under close supervision and make drastic changes in the insulin dose. For example, they should eliminate regular insulin altogether and take only NPH in divided doses after ending the fast or before the pre-fast breakfast. Diabetics, if they fast, should still take a diabetic diet during the pre-dawn meal, the ending of the fast meal, and dinner. The sweet snacks common in Ramadan are not good for their disease. They should check their blood sugar before breakfast and after ending their fast.

**Hypertensive or Cardiac Patients:** Those who have mild to moderate high blood pressure along with being overweight should be encouraged to fast, since fasting may help to lower their blood pressure. They should see their physician to adjust medication.

For example, the dose of water pill (diuretic) should be reduced to avoid dehydration, and long acting agents like Inderal LA or Tenormin can be given once a day before the pre-dawn meal. Those with severe hypertension or heart diseases should not fast at all.

**Migraine Headache:** Even in tension headache, dehydration or low blood sugar will aggravate the symptoms, but in migraine during fasting, there is an increase in blood free fatty acids which will directly affect the severity or precipitation of migraine through release of catecholamine. Patients with migraines are advised not to fast.

**Pregnant Women (normal pregnancy):** This is not an easy situation. Pregnancy is not a medical illness. Therefore, the same exemption does not apply. There is no mention of such exemption in the Quran. However, the Prophet said that pregnant and nursing women do not have to fast. This is in line with God not wanting anyone, even a small fetus, to suffer. There is no way of knowing the damage to the unborn child until delivery, and that might be too late. In my humble opinion, during the first and third trimester (three months) women should not fast. If however, Ramadan happens to come during the second trimester (4th-6th months) of pregnancy, a woman may elect to fast provided that 1) her own health is good, and 2) it is done with the permission of her obstetrician and under close supervision.

The possible damage to the fetus may not be from malnutrition provided the Iftaar and Sahoor are adequate, but from dehydration, from prolonged (10-14 hours) abstinence of water. Therefore it is recommended that Muslim patients, if they do fast, do so under medical supervision.

## **DIABETES MELLITUS AND RAMADAN FASTING**

Diabetes mellitus affects people of all faiths. Muslims are no exception. Many diabetic Muslims have a desire to fast during the month of Ramadan, although if they cannot for health reasons, they have a valid exemption. The dilemma for physicians and Muslim scholars is whether or not Muslim diabetic patients (1) should be allowed to fast if they decide to; (2) can fast safely; (3) can be helped to fast if they decide to; (4) can have their disease monitored at home; and (5) are going to derive any benefit or harm to their health. Fasting during Ramadan by a Muslim diabetic patient is neither his right nor Islamic obligation, but only a privilege to be allowed by his physician, at the patient's request, knowing all the dangers and assuming full responsibility in dietary compliance and glucose monitoring, with good communication between the physician and the patient .

## **PSYCHOLOGICAL STATE OF DIABETES DURING RAMADAN**

Diabetes mellitus itself adversely affects patients' psychological states by changes in glucose metabolism, blood and CSF osmolality, needs for discipline and compliance, fear of long term complications and threat of hypoglycemic attacks and the possibility of dehydration and coma.

On the other hand, fasting during Ramadan has a tranquilizing effect on the mind, producing inner peace and decrease in anger and hostility. Fasting Muslims realize that manifestations of anger may take away the blessings of fasting or even nullify them. Diabetics know that stress increases the blood glucose by increasing the catecholamine level and any tool to lower the stress; ie., biofeedback or relaxation improves diabetic control.

Thus, Islamic fasting during Ramadan should have a potentially beneficial effect with regard to diabetic control.

## **EDUCATIONAL PROGRAM FOR DIABETICS DURING RAMADAN**

It should be directed toward (a) diabetic home management; (b) preparing them for Ramadan; (c) recognizing warning symptoms of dehydration, hypoglycemia and other possible complications.

Patients should be taught home glucose monitoring, checking urine for acetone, doing daily weights, calorie-controlled diabetic diet, need for sleep and normal exercise. They should be able to take pulse, temperature, look for skin infection and notice changes in the sensorium (mental alertness). They should be on special alert for any colicky pain, a sign for renal colic, or hyperventilation, a sign of

dehydration, and to be able to seek medical help quickly rather than wait for the next day.

### **CRITERIA ALLOWING DIABETICS TO FAST DURING RAMADAN**

- a. All male diabetics over age 20.
- b. All female diabetics over age 20 if not pregnant or nursing.
- c. Body weight normal or above ideal body weight.
- d. Absence of infection, co-existing unstable medical conditions, ie,

coronary artery disease, severe hypertension (B/P 200/120), kidney stones, COPD or emphysema.

**TABLE 1**  
**1500 CALORIE AND DIET MENU FOR RAMADAN**  
**FOOD EXCHANGES**  
**PRE-DAWN BREAKFAST**

	American	Pakistani	Middle Eastern
Fruit 1	1/2 c Orange Juice	1/2 Grapefruit	1/2 Grapefruit
Starch 3	1/2 c Oatmeal 1 English Muffin	1 Pita Bread 1/2 Potato Bhujia	1 Pita Bread 1/3 c Fool Midammis
Meat 2	1 Boiled Egg 1/4 c Cottage Cheese	2 egg Omelet 1 oz Feta Cheese	1 Boiled Egg
Fat 1 And 2 Black Olives	1 tsp Margarine	1 tsp Olive Oil	1 tsp. Olive Oil
Skim Milk 1	1c Skim Milk	1 c Skim Milk	1 c Laban
Free Foods	2 tsp Sugar Free Jam Coffee	Tea	Tea

### **POST-SUNSET ENDING THE FAST**

Fruit 1	2 large Dates	2 large Dates	2 large Dates
Starch 1 Hummus	6 sm Vanilla Wafers	1/3 c Chana Chaat	1/3 c Salatet
Skim Milk 1 fort tz I	1 c Skim Milk	1 c Lassi	1 c Rabat

### DINNER

Meat 3	3 oz Roast Beef	3 oz Bhuna Gosht	3 oz Tikka
Kebab Starch 2	1 sm Baked Potato	1/3 c Daal	1/3 c Lentil Soup
	1 Dinner Roll	1 Chapati	1 Pita Bread
Vegetable 2	1 c Tossed Salad	1 c Sliced Raw Vegetables	1/2 c
Tomato and Onion	(carrot, cucumber,	(tomato, cucumber,	(cooked with
Tikka	tomato, radish)	onion)	Kebab)
	1/2 c Steamed	1/2 c Bhindi Bhujia	1/2 c
Cooked		Cauliflower in Tomato Broccoli Sauce	
Fat 1	2 tsp Sour Cream	1 tsp Oil used in cooking	1 tsp Oil
(used in cooking)			
Fruit 1	1 Fresh Apple	15 sm Grapes	1 Fresh
Apple			
Free Foods	Lettuce (for salad) -as desired	Tea	Tea
	2 Tbl Reduced Calorie Dressing		
	C coffee		

### BEDTIME SNACK

Fruit/Starch	3 Graham Cracker	1/2 Mango	2
Tangerines			
Skim Milk 1	1 c Skim Milk	1 c Skim Milk	1 c
Laban			

## **ALCOHOL AND DRUG ABUSE: THE AMERICAN SCENE AND THE ISLAMIC PERSPECTIVE**

In Pakistan the first known case of heroin addiction was recorded in 1980. In 1981, there were only 25 cases recorded. By 1986 there were half a million cases. Now it is estimated that there are between 1-1.5 million cases in a population of 95 million. The rate of growth of narcotic addiction in Pakistan is higher than that of the USA. In addition to heroin addicts, there are about 1 million opium and hashish users, and 300,000 tranquilizer abusers.

The actual number of alcoholics is difficult to determine, since they usually do not seek treatment. There are only 26 rehabilitation centers and 10,000 trained social workers. By comparison, in the USA with a population of 220 million, there are 15 million alcoholics, 2 million heroin addicts, 5.5 million cocaine users, 6 million tranquilizer abusers and 18 million marijuana smokers. There are 700 treatment centers. (There are 10,000 cocaine kids (children born to cocaine mothers)).

The cost of drug treatment to the nation (USA) is \$117 billion per year. In 1986 Congress allotted only \$2.5 billion to control drug traffic, a \$10 billion industry. The value of cocaine seized at the borders in 1985 was \$70 million (5 million in 1981) and marijuana \$70 million (2 million in 1981). Next to Columbia, the USA is the second biggest producer of marijuana.

In addition to morbidity, the alcohol and drug scene is closely connected to the crime rate. In 1985 alone 800,000 arrests were made for drug violations (compared to 400,000 in 1973). Of the 523,000 inmates in U.S. prisons, one-third admitted drinking alcohol before committing the felony.

Of the 50,000 auto accident deaths annually, 23,000 are related to acute alcoholism, 5,000 being teenagers. About 1,500,000 arrests made annually for traffic violation are related to alcoholism. In addition great man made disasters have taken place due to one man's alcohol indulgence: the Captain of the Exxon tanker in Alaska. No wonder, the ethics committee in the US Congress was so careful in choosing the Defense Secretary. One-third of all 200,000 AIDS cases occur in IV drug abusers or their partners. 54% of drug related AIDS are in heterosexual men, 16% in women, 20% in homosexual men, 8% in partners of drug users and 3% in children born to mothers with drug abuse or mothers whose partners were drug abusers. The alcohol and drug abuse in children as young as 5 is increasing at an alarming rate.

In addition to alcohol, marijuana, heroin and cocaine, the other drugs abused are angel dust (PCP), speed, MDMA (ecstasy), china white, MPTP, tranquilizers and

anabolic steroids. Let us discuss some of the medical aspects of these drugs in brief.

## **MARIJUANA**

Marijuana has 400 known chemicals, 61 of them affect the brain, the THC or delta 9 Tetrahydro Cannabinol is the most active ingredient. Marijuana impairs memory, concentration and reading capacity. It increases anxiety, apprehension and fear. It damages the heart and the lungs. It lowers testosterone (male hormone) and sperm count and affects the outcome of pregnancy.

It is more carcinogenic than cigarettes.

## **COCAINE (CRACK)**

A potent brain stimulant cocaine was initially thought to be harmless. It was thus added to the soft drink (coke) in the 1900s. When given intravenously, it produces intensely high and intensely low (depression), hallucinations, convulsions, cardiac arrest and death.

## **HEROINE**

(Opium) morphine derivative. Usually injected by needle, but can be snorted or smoked.

It is highly addictive with intense withdrawal symptoms. Overdose results in death.

## **AMPHETAMINES**

Amphetamines are "pep pills" to fight fatigue and stay awake, suppress appetite, and stimulate heart and central nervous system. Dangerous in large doses, it can cause psychological addiction.

## **BARBITURATES**

Barbiturates are used to overcome intense high and produce sleep. It can be fatal when used with alcohol.

## **LSD (ACID)**

LSD is a powerful hallucinogen. can cause psychotic reaction and mental breakdown.

## **NEW DRUGS**

MDMA (ecstasy) is LSD and cocaine. It causes disorientation initially but leads to permanent brain damage. China White is 1,000 times more potent than heroin. MPTP causes Parkinson's Disease (brain damage).

## **ALCOHOL**

Alcohol damages all organs of the body in due course. It damages the liver (cirrhosis), the heart (cardiomyopathy), sex hormones and the immune system, and causes stomach bleeding (ulcer). Its effect on the brain can be acute (intoxication, delirium) or chronic (ataxia, memory loss, coordination). It is linked to breast cancer and fetal damage in women. It is responsible for violence, homicide, suicide and drunk-driving which takes most lives.

## **PROFILE OF AN ALCOHOLIC AND DRUG ABUSER**

Instead of writing at length the problems of drugs and alcohol in the youth of America, which cost the nation billions of dollars, and cost mothers their sons and daughters (MADD), I think it will be better if I print an autobiography of one of my patients (19 year old, white female, upper class, name withheld). She writes, "When I was in high school, my friends and I began to experiment with marijuana. After the excitement of smoking pot became 'old hat,' we began to try different drugs such as hash and THC. Pretty soon cocaine and LSD were introduced to us and it was common place to go to any party 'high' on one or more of these drugs. Several times, I had very frightening experiences. Specifically one night, after taking LSD, I went home (to my parents' home) before my "high" was over. Usually, I stayed overnight with a friend, who "tripped" with me. On this night, my boyfriend and I broke up right after I took the LSD, so I went home alone. My parents were asleep in the next room and I felt that I had to be very quiet, so as not to wake them. I was afraid to make any noise, plus I was upset over the breakup of my relationship with my boyfriend. When the LSD took effect, I was very frightened. The walls looked as though they were melting. I heard strange noises. I hallucinated even after closing my eyes. The sights were very unpleasant and (produced) frightening images. But I could not do anything but lie in bed, waiting for the drug to wear off. I did not think I could tell my parents, since I knew I had taken an illegal and dangerous drug. I was awake nearly all night, scared to death with no one to talk to. For days after this incident, I was nervous and jumpy and depressed. The incident was a major shock to my system and one that I would never want to repeat.

I stopped taking "drugs" immediately after my senior year in high school (I had only discovered drugs at the beginning of that school year). But, I guess the stage

was set for my future reactions. Drugs did not help. They were just for fun at first but then once the "high" was gone, there was a real "let down" feeling that followed. So we'd either do more drugs or drink a few beers to make that feeling go away. Even now, whenever I get down or "stressed out," the first thing I do is have a few drinks. The day after is always unpleasant if I have had too many drinks so the opportunity for a vicious cycle is there. I honestly believe that the "harmless" experiments with marijuana, several years ago, may have been the start of this tendency to turn to alcohol today. The bottom line is I'd be a hundred times better off today-happier and wealthier-if drugs had never entered my life years ago."

## **THE ISLAMIC PERSPECTIVE**

The Shariah or Islamic Law seeks to protect faith (belief in one God), life (abortion, suicide, homicide), property (ownership) and the mind (intoxicants). Normally in the brain there is an inhibitory control which tells us not to engage in shameful or wrongful acts. Any suppressant drug including alcohol will suppress this nerve pathway and remove the restraint. Ability to make a judgment, to protect the body or honor, a quality for humans, is lost under the influence of drugs.

There are two main features of Islamic prohibitions.

Islam stops the wrong at the inception and not at the end. There is nothing like a safe drinking age or safe drugs to get high on. Most of the teenage alcoholics do not buy alcohol from the store but get it at home. Islamic law makes no distinction between children and parents. Total prohibition (or total abstinence), is required of all unlike the prevalent practice in Western society. This duality of standards (or double standard of judgment) has crippled Western societies in their ability to deal with the problems of drugs and alcohol.

Islam blocks all the avenues to wrong. Therefore not only is illicit sex prohibited, but the casual free mixing of sexes, obscenity and pornography is prohibited. In the same context, not only is drinking wine prohibited, but making it, serving it, selling it, keeping it, or even growing grapes for the sole purpose of selling it to a winery for making wine is prohibited by the Prophet. Some 1400 years ago, God, our Creator and Sustainer, Who cares for us, sent down following revelation in the following order, mentioned in the Quran, "They ask you concerning wine and gambling. Say: 'In them there is a great sin, and some profit, for men, but sin is greater than the profit...' (2:219). "O you who believe! Approach not prayers, with a mind befogged, until you can understand all that you say" (4:43). "O you who believe! Intoxicants and gambling, (dedication of) stones, and (divination by) arrows, are an abomination of Satan's handiwork: Avoid such (abomination) that

you may prosper" (5:93). "Satan's plan is to sow enmity and hatred among you with intoxicants and gambling, and to hinder you from the remembrance of God and from prayer Will you not then give up" (5:93).

The above verses were received over a period time. Muslim society was gradually prepared psychologically for the final prohibition so that when the last verse was received, they accepted it without any reluctance. When the prohibition was announced it had an electric effect. Anyone who happened to be drinking, threw away the glass and the cups raised to the lips were dashed to the ground. The streets of Madinah that day flowed with wine!

### **THE PROPHET ON WINE AND OTHER INTOXICANTS**

- \* "Every intoxicant is khamr, and every khamr is unlawful" (Reported by Muslim).
- \* "Of that which intoxicates if taken in large amounts, a small amount is (also) haram" (Ahmad, Abu-Dawaud and Al-Timidhi).
- \* "Intoxicants are the mother of all evils" (reported in Bukhari).

### **SOLUTIONS**

There are no easy solutions. In fact it is a multifaceted problem and each aspect should be addressed individually and seriously, both by the government and by the public. While the total ban on production, import and export is the ideal solution to create a drug free society, by experience (i.e. in the USA with total ban on alcohol in the 1920s), it is difficult to achieve unless strict laws are made and enforced against drug producers, traffickers and offenders, without making any distinction between the helpless victim and a powerful drug lord. Our current system punishes the former and spares the latter. Islam offers such tough laws to safeguard peace, morality and health of individuals and society. While we are trying to do these, in the meantime, we should pay more attention to the needs of the victim by educating the masses, social workers, law enforcement agencies and physicians, while at the same time developing treatment and rehab centers to cope with ever increasing human sufferings, and to help some young men, women, sons, daughters, husbands and fathers from being lost forever.

All these require motivation and commitment from all of us. It is beyond the dignity of a human being to become dependent on alcohol and drugs and be unable to look after himself, his family and serve his creator in the best possible manner.

### **SAMPLE LIVING WILL DECLARATION**

Declaration made this - day of sound mind, willfully and voluntarily make known my desires that my dying shall not be artificially prolonged under the circumstances set forth below, and I declare: If at any time I have an incurable

injury, disease or illness certified in writing to be a terminal condition by my attending physician, and my attending physician has determined that my death will occur within a short period of time, and the use of life prolonging procedures would serve only to artificially prolong the dying process, I direct that such procedures be withheld or withdrawn, and that I be permitted to die naturally with only the provision of appropriate nutrition and hydration and the administration of medication and the performances of any medical procedure necessary to provide me with comfort care or to alleviate pain. In the absence of my ability to give direction regarding the use of life-prolonging procedures, it is my intention that this declaration be honored by my family and physician as the final expression of my legal right to refuse medical or surgical treatment and accept the consequences of the refusal. who is not a beneficiary of my will, is my case manager, if I am not able to give direction. I do not permit autopsy of my body unless my death occurred in a suspicious manner and is required by the court of law.

The declarant has been personally known to me and I believe (herein) to be of sound mind. I did not sign the declarant's signature above for or at the direction of the declarant. I am not a parent, spouse, or child of the declarant.

I am not entitled to any part of declarant's estate or directly financially responsible for the declarant's medical care. I am competent and at least eighteen (18) years old.

## **THE ISLAMIC PERSPECTIVE IN MEDICAL ETHICS**

With the population of Muslims in the US growing to about eight million now and Muslim physicians to about 18,000, non-Muslim American physicians will have to deal with medical ethics concerning Muslim patients.

The introduction of new technology in medicine in areas of sustaining life support systems, organ transplantation, biotechnical parenting and acquired immune deficiency syndrome, have presented new questions, and affected our outlook in medical ethics. Muslim patients, their families and their physicians need to update their current knowledge and the Islamic perspective in these areas. An attempt has been made to present the Islamic perspective as mentioned in the Quran.

The introduction of modern medical technology has posed perplexing new questions for Muslims, the answers to which they are still seeking. Muslim masses are ignorant and naive, behaving like the ostrich which, on seeing a danger, buries its head in the sand and thinks that it is safe. In general, Muslims are split into two groups: One group is educated and modernized and would accept anything labeled as scientific, irrespective of religious or moral considerations. The other group of so-called Islamic scholars have knowledge of Islam, but not of medical sciences.

They are quick to give their opinion on everything. However, both groups should be reminded that Islam is not a religion of personal opinions. "It is not fitting for a believer, man or woman, when a matter has been decided by God and His Prophet, to have any option about the decision. If anyone disobeys God and His Apostle, he is indeed on a clearly wrong path" (33:36).

Muslims living in an advanced Western society cannot stay aloof from the issues surrounding them. All factors affecting non-Muslims, sooner or later, directly or indirectly, will affect them too. The basic question in medical ethics is, "Who is the giver of life and death?" Should man control his life and death and that of other humans? Man now "thinks" he can create life or take it away, prolong life (or misery).

Are physicians to serve the creatures of God, or act as God themselves?

The Quran reminds man of his lowly origin and real position in life, "Does not man see that it is we who created him from sperm? Yet behold! He stands as an open adversary! And he makes comparisons for us, and forgets his own creation.

He says who can give life to (d) bones and decomposed ones? Say "He will give them life who created them for the first time, for He is versed in every kind of creation" (36:77-79).

## **CURRENT MEDICO-LFGAL AND MORAL ISSUES AND THEIR ISLAMIC PERSPECTIVE**

The Right To Live And To Die: The care of the terminally ill is becoming very expensive. It is costing billions of dollars to keep patients alive in a vegetative state in intensive care units.

The concept of euthanasia (mercy killing) is being revived. In 1987, 23,000 cases occurred in Holland. The question is who determines (the unconscious patient, the family, or the doctor) that the plug should be pulled and the life support system be stopped? What is the definition of death? Is the living will justifiable? Is stopping the life support system an act of mercy, a medical decision, a murder, or just a financial decision?

The Islamic Perspective

Islam does not believe in prolonging life as everyone has been created for a certain life span. Scientists are to assist, but not replace God in the creation of death of human beings. Islamic morality starts in the womb and extends to the tomb. Islam places great emphasis on the sanctity of life and the reality of death. "If anyone

killed a person, unless it is for murder or spreading mischief on earth, it would be as if he killed all of mankind. And if anyone saved a life it would be as if he saved the lives of all mankind" (5:35). "Every soul shall have a taste of death" (2:35). "No soul can die except by God's permission" (3:185).

Thus, while Islam gives importance to saving lives (medical treatment or otherwise) it makes it clear that dying is a part of the contract (with God) and the final decision (of term) is up to God.

The quality of life is equally or more important than the duration of living.

My humble suggestion is that the physician and the family should realize their limitations and not attempt heroic measures for a terminally ill patient or to prolong artificially a life (or misery). The heroic measures taken at the beginning of life (i.e. saving a premature baby) may be more justified than at the end of a life span, though each case should be considered on individual basis.

Islam is categorically opposed to euthanasia (mercy killing) and regards it as an act of murder. We do not see the difference between the gun used by a husband for his dying wife and the syringe used by the physician for his dying patient. Both are weapons of death, no matter what the intentions of the killer was.

## **ORGAN TRANSPLANTATION**

Nowadays many diseased organs are being replaced by healthy organs from living donors, cadavers and from animal sources. Successful bone marrow, kidney, liver, cornea, pancreas, heart and nerve cell transplantations have taken place. The incidence is limited only by cost and availability of the organs.

The ethical questions are what are the rights of the living donor, the dead body and the recipient. To prolong a life, does the recipient have a right to take away the organs from the dead? Is the sale of organs justified? Is the taking of animal organs justified? Is accepting organs from aborted fetuses justified? Is the cost of transplantation worth the benefit derived from it? The cost of a heart transplantation alone is \$70,000 now, not including long term care. Will harvesting fetal tissues lead to more abortions?

### **The Islamic Perspective**

The basic question is who owns our organs, we, our relatives, or our Creator?  
A. Animal to Human: If we can kill them for our food and let their meat become our flesh, why can we not use their cornea to give us eyesight?

B. Living to Living: This is like giving a gift at no cost. The sale is prohibited. C. Dead to Living: This is not permitted since it involves the desecration of the dead body.

## **ABORTION**

Currently about 2 million fetuses per year or 4000 per day are aborted in the U.S. The medico-ethical questions are many. Is abortion equal to murder? When is a fetus a living being? What are the rights of the fetus? Who guards those rights? Do both parents (even unwed) have the same rights over the life of the fetus? If life is a gift of God, who are we to take it away? Is killing an infant and the aged and terminally ill the same thing? What should be done with the pregnancy that is the outcome of rape? What is the role of Muslim obstetrician? Is the sale of aborted fetus for transplantation of tissues and organs, or of their delicate skin to make expensive cosmetics, justified?

### The Islamic Perspective

Islam considers abortion of a viable fetus an infanticide except when done to save the life of the mother. Even in this situation every attempt should be made to save both lives.

The fetus is alive as a cell from the very beginning, with shaping starting at four weeks and movement at four months. According to the Traditions, at 120 days the angel visits the fetus and blows the spirit into it. This coincides with starting of the baby's first movement.

The viability of the fetus medically has improved with the development of neonatology. The smallest infant ever saved, weighed 4 oz at 3 1/2 months.

The Quran refers to abortion in many places, "Kill not your children for fear of want. We shall provide sustenance for them as well as for you. Verily the killing of them is a great sin" (I 7:3 1). "Kill not your children on a plea of want. We will provide sustenance for you and for them. Come not near shameful deeds whether open or secret. Take not life which God has made sacred except by way of justice and law. Thus He commands you that you may learn wisdom" (6:15 1).

"The pledge of the believing women that they shall not kill their children" (60:02). "And when the female infant who was buried alive is asked for what crime she was killed?" (81:2).

The liberated women of today are not killing their infants for fear of want or for the shame of the birth of a girl, but rather to enjoy the life of sexual freedom. "Such as took their way of life to be mere amusement and play and were deceived by the life of this world. That day We shall forget them as they forgot the meeting of this day of theirs and as they were bent upon rejecting Our signs" (7:5 1).

## ISSUES IN BIO-TECHNICAL REPRODUCTION

Infertility and the desire of a couple to have a child of their own is not a new problem. However new techniques to solve this have added a new twist. Now we have successful technology to fertilize an egg outside the uterus (test tube babies) and inject sperm into the uterus from the husband or a surrogate male donor, take the ovum of a woman and fertilize it with the sperm of her husband and inject it into the uterus of another woman for incubation.

The questions are:

- a. Is marriage a legal contract between a man and a woman or is it a sacred covenant between the two, and God is the witness of such?
- b. Was the child born of an intact legal marriage or outside the marriage?
- c. In the case of the surrogate father, who is the real father and does the child have the right to know who he is?
- d. In case of the surrogate mother, who is the real mother, the one whose ovum is being used, or the one who lets her uterus be used?
- e. Is renting a uterus for this purpose allowed or justified?
- f. A woman married or single can technically have one child per month if she lets her ovum be fertilized by different sperm incubated each month in a hired uterus. This will save her the pains of pregnancy, labor and lactation. Is this right?

### The Islamic Perspective

In Islam the marriage of a man and a woman is not just a financial and physical arrangement of living together but a sacred contract, a gift of God, to enjoy each other physically and continue the lineage.

"And God has created for you mates from among yourselves, and made for you, out of them, sons and daughters grandchildren.

And provided for you sustenance of the best: will they then believe in vain things and be ungrateful to God's favors?" (16:72). "Among His signs is that He created mates for you from among yourselves, so that you may find tranquility with them, and He has put love and compassion between you.

Verily in this are signs for people who reflect" (30:21).

The Prophet (PBUH) has emphasized marriage by saying, "Marriage is my tradition. He who rejects my tradition is not of me." In fact he described marriage as half of religion, the other half being God-consciousness. As such introduction

of any biomedical technique into this sacred contract of marriage is a violation of Islamic law.

Some prophets were childless and asked God to give them children (ref. Quran 19:2-7 and 21:89-90 for the prayers of Zakariya and 51:28-39 for the story of Abraham and Sarah). This means that one may seek parenthood in a legitimate way only, recognizing that God above controls it. "To God belongs the dominion of the heavens and earth.

He creates what He wills, He bestows (children) male or female, or He bestows both males and females, and He leaves barren whom He pleases:

for He is all knowledgeable, All-powerful" (42:49-50).

Biotechnical parenting is, however, permissible if it is within an intact marriage i.e. during the life span of marriage. Artificial insemination using the husband's sperm, fertilized in the uterus of the wife or the test tube is allowed.

Surrogate motherhood is not acceptable because of two questions:

- a. Who is the mother?
- b. What will be the child's lineage.

"None can be their mother except those who gave them birth (58:2).

"It is He who created man from water, then has He established the relationship of lineage and marriage, for your Lord has power over all things" (25:54).

Islam recognizes the sacredness of the womb (uterus). "O mankind! Revere your Lord who created you from a single person and created, of like nature, his mate, and from them twain scattered (like seeds) countless men and women.

Revere God through whom you demand your mutual rights and (revere) the womb (that bore you), for God ever watches you" (4:1).

## **ETHICAL QUESTIONS ABOUT AIDS PATIENTS**

AIDS is spreading like a plague. About 200,000 cases have been reported in the US alone, half of whom have already died. One case is being reported every 14 minutes.

The Center for Disease Control officially estimates that 1.5 million Americans are infected with HIV. It is projected that 365,000 active cases will be reported in the

USA by 2000. According to Dr. James Curran of the Center for Disease Control in Atlanta the figure may be as high as 440,000. You don't have to be homosexual to get AIDS through sexual transmission and sharing needles with IV drug users is the main mode of transmission. 18,000 hemophiliacs have AIDS now due to blood transfusions. 15% of all AIDS victims are women and about 540 children are reported to have the infection. The spread of AIDS is changing the sexual life style of single women and men. AIDS has been reported in 152 countries. Next to the USA, the highest numbers in the western countries are France, West Germany and Britain. The total number of AIDS victims in the world is 177,965 now. The economics of AIDS are startling. In the USA, the medical care cost of AIDS will rise from \$1.8 billion in 1986 to \$8.5 billion in 1991, the research, education and screen from \$542 million to \$2.3 billion and a total cost from \$7 billion to \$55.6 billion.

#### Ethical Questions Related To The Care of AIDS Patients Are

1. Who will pay for the cost of AIDS cases since insurance companies will not insure them?
2. Should AIDS patients be quarantined and forced to change their lifestyle?
3. Should HIV drug users be given free clean needles, syringes and drugs?
4. Should HIV positive carriers carry an ID card?
5. Should someone be tested for HIV without his knowledge and what should be done with positive results?
6. Does paying for AIDS cases by the public or the government mean that they endorse the lifestyle of the patients?

The Islamic perspective, though not clearly defined, would be the prevention of the disease and after its occurrence treating it like any other disease, i.e., tuberculosis, syphilis, or small pox. We never question the lifestyle of patients with other common diseases i.e. diabetes, hypertension, coronary heart disease in order to discriminate them or restrict their care. AIDS may be "a wrath of God" because of certain lifestyles, but many "innocent" people are affected by it. Therefore, they should not be penalized. In each community every attempt should be made to prevent the spread of the disease but once it has affected an individual full attention and care must be given to lessen his or her suffering and maintain the dignity and quality of life.

#### **CONCLUSION**

I have tried to present ethics as it is being practiced with questions for those involved. I have not attempted to give detailed accounts of each biomedical techniques. I am sure most of the readers, medical or non- medical have some knowledge in this area.

With eight million Muslims in the US and 18,000 Muslim physicians, it will be wise that non-Muslim physicians, clergy and law makers become acquainted with the Islamic perspective of medical ethics.

I strongly recommend that each institution dealing with question of life and death, a local Muslim physician be on the medical ethics committee.

## **ETHICAL DECISION MAKING IN PATIENT CARE: AN ISLAMIC PERSPECTIVE**

Islam, the meaning of which is peace and submission to the will of God, is not merely a way of worship but a way of life from womb to the tomb. We believe we have been created as humans and placed on this planet as a test from God, how we conduct ourselves .

In the Name of Allah, the Beneficent, the Merciful

"Blessed is He in Whose hand is the Sovereignty, and He is Able to all things, Who has created Life and death that He may try you, which of you is best in conduct; and He is the Mighty, the Forgiving" (67:1-2).

In the absence of any ordained clergy in Islam, the role of decision making can be taken by the leader of a mosque, a religious scholar, a practicing Muslim physician or an elder in the family or community.

However, he or she must consult the Quran, the Word of God, and the Sunnah, the sayings of the Prophet Muhammad (PBUH) before giving his or her opinion, and should not place his or her opinion above the opinion of God and the Prophet. "And it becomes not a believing man or a believing woman, when Allah and His messenger have decided an affair (for them), that they should (after that) claim any say in their affair,- and who so is rebellious to Allah and His messenger, he verily goes astray in error manifest" (33:36).

The guiding verse in Quran regarding the sanctity of life is, "If anyone killed a person, unless in lieu of murder or spreading mischief on earth, it would be as if he killed all of mankind. And if anyone saved a life, it would be as if he saved the lives of all mankind" (5:32).

Muslim patients understand that illness, suffering and dying are part of life and a test from God.

Be sure We shall test you With something of fear And hunger, some loss In goods or lives or the fruits (Of your toil), but give Glad tidings to those Who patiently persevere (2:155).

Death is nothing but part of a journey and transformation from one life form to another and component of their faith.

How can you reject the faith in God? Seeing that you were without life, and He gave you life; then will He cause you to die, and will again bring you to life; and again to Him will you return (2:28).

Nor can a soul die  
Except by God's leave.  
The term being fixed  
As by writing. If any  
Do desire a reward  
In this life, We shall give it  
To him; and if any  
Do desire a reward

In the Hereafter,  
We shall Give it to him.  
And swiftly shall We reward  
Those that (serve us with) gratitude (3:45).  
Thus, belief in God and the hereafter establishes peace in their hearts.  
Who say, when afflicted  
With calamity: 'To God  
We belong, and to Him  
Is our return' (2:156).

They seek God's help with patience and prayer.

O you who believe! seek help  
With patient perseverance  
And prayer: for God is with those  
Who patiently persevere (2:153).

The major roles of the ethicist in the patient care area are: a) Understanding the concerns of the patient and his family and transmitting them to physicians and others involved in the decision making process; b) interpreting the scripture as it applied to the specific concerns of the patient; c) consoling and comforting the patient and his family so that they can accept the present situation as a will of God and pray for a better life in the hereafter; and d) taking care of the needs of family (spiritual, emotional or even financial) after the death of the loved one.

The important principles used by Islamic ethicists are the preservation of faith, sanctity of life, alleviation of suffering, enjoining what is good and permitted, and forbidding what is wrong and prohibited, respecting patients' autonomy and couples' marriage, while achieving medical justice without harm and always being honest and truthful in giving information. He or she must consult the patient, the family, the physician and preferably another Islamic scholar, before giving a final opinion.

## **MEDICAL FUTILITY / ISLAMIC PERSPECTIVE**

### **CASE PRESENTATION: BABY K**

Baby K was born anencephalic (absence of all brain except for rudimentary brain tissue) in October, 1992. The baby breathes, sucks, swallows and coughs. The baby cannot see, hear, feel or think. The baby's mother, out of a firm Christian faith that all life should be "protected," insists that everything should be done for her baby, including mechanical and artificial ventilation.

The Muslim physicians were asked the question as to whether or not mechanical ventilation in this situation was permissible, prohibited or uncertain.

Before discussing this case itself, there are several questions that come to mind about this particular issue.

1. Does the quality of life modify decision-making?
2. When the resources are scarce, who takes precedence, the individual or the community?
3. When the physicians and family vs. patients' views clash, whose view should be taken into account?
4. How does a Muslim physician deal with a "firm Christian belief" of his patient and the patient's relatives?

As far as Baby K itself is concerned, the chances of this child's survival without mechanical ventilation are very small. The cost of maintaining him or her on long-term ventilation, either in the hospital or in a home situation, is extremely high, and it places tremendous pressure on parents in caring for such a child without improving any quality of life. However, their emotional attachment, as well as their faith perspective, should be taken into account and respected.

Let me explain some of the principles of biomedical ethics:

1) Respect for autonomy: People are autonomous to the extent that they are able to understand and make decisions for themselves that are intentional and voluntary. The principle of respect for autonomy places importance on allowing persons to

make important decisions for themselves. The right of patient self-determination is based on this principle .

2) Beneficence: The principle of beneficence obliges persons to benefit or help others. This principle requires positive action: to prevent what is bad or harmful; to remove what is bad or harmful; and to do or promote what is good or beneficial.

3) Nonmaleficence: This principle obliges persons to refrain from harming others, including to refrain from killing them or treating them cruelly.

It is one of non-intervention. It also requires persons to exercise due care so that they do not unintentionally harm others through actions such as reckless driving or careless surgical procedures.

4) Justice: This principle requires a fair distribution of benefits and burdens. Justice requires that persons receive that which they deserve or to which they are entitled. This principle is involved in decisions to allocate scarce health care resources. The specifics of how to implement this principle remain controversial in many situations.

Each patient should be discussed under these guidelines for the final conclusion. We, the physicians, cannot remain aloof from such situations as we are intimately involved in patients' care and outcomes.

1) We, the physicians, must understand the religion of our patient because the religion of the patient influences his feeling and thus affects the patient's decision and compliance with a prescribed treatment.

2) A physician is seen as a secular priest. Therefore, a patient who is indecisive about his care may seek not only medical but also spiritual advice from the physician.

3) Sickness precipitates questions in the patient and drives him closer to God. Therefore, he may have to reflect upon his past and make some decision based on his own spiritual growth during illness.

4) Finally, the physician's own belief may influence his treatment options offered in the patient's outcome. For example, a physician who is totally against abortion will never advise his patient to undergo abortion, or a physician who does not care about the sanctity of life may become "a suicide doctor."

We conducted a survey of Muslim physicians about Baby K (Chart A). Twenty-nine of them, or twenty-four percent, thought it was permissible to institute

mechanical ventilation for Baby K. However, seventy- nine of them, or sixty-five percent did not feel that way. At the same time, fourteen or eleven percent were not sure.

The true role of physicians is to alleviate suffering and give comfort to the patient and the relatives, improving the quality of life, the terms of which have been fixed. The physician should not perform heroic measures in the care of a hopelessly ill patient. Technically, a patient in a vegetative state can be kept alive for months and years, like Karen Quinlan's case, eventually to die anyway. It may also be very painful for the relatives to see one of their loved ones being in a vegetative state for such a period of time and cost to the family of such care can be over \$100,000.

Nor at the same time, should physicians hasten the process of death by pulling the plug or withdrawing nutritional support.

Therefore, the decision in such cases cannot be an individual decision by either the family or the physician but should be a decision of all those concerned or who are involved in the care of the individual patient. The team should include not only the physician and relatives but also a Muslim clergy for the interpretation of the Shariah.

**CHART A**

Survey of Muslim Physicians about Baby K's Mechanical Ventilation

Age Groups of Prohibited Physicians	Males			Females		
	Permissible	Prohibited	Not Sure	Permissible	Prohibited	Not Sure
20-30	2	16	2	0	0	0
30-40	4	8	3	1	2	0
40-50	9	25	3	4	4	1
50-60	7	17	1	0	6	1
60	2	1	2	0	0	1

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Total                    24                    67                    11                    5                    12                    3

1. Permissible: 29 or 24%
2. Prohibited: 79 or 65%
- 3 Not Sure: 14 or 11%

### **AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES: WHAT BELIEVERS SHOULD KNOW ABOUT THEM**

Acquired Immune Deficiency Syndrome (AIDS) often referred to as the plague of the twentieth century, is spreading so fast, especially in the US, Britain, West Germany and France that it is no longer a moral issue. Since there are sizeable Muslim communities residing in these countries, they should be aware of the facts relating to AIDS.

It is no longer sufficient for Muslims, especially those residing in the West, to say that we are immune to AIDS because of our lifestyle. Indeed, our lifestyle has a great deal to do with the spread of AIDS.

The Quranic prohibition on homosexuality, adultery and fornication has saved Muslims from such scourges.

There are many Muslims working as doctors, dentists, scientists or in hospitals where they are likely to come in contact with AIDS patients or AIDS-infected blood.

Blood transfusion during an operation may be another source of transmission. Similarly, AIDS is no longer confined to a particular group of people, for example, homosexuals, in the West. Because of the promiscuous lifestyle, AIDS is being transmitted by all kinds of people, men and women, very rapidly in society

Today, one finds children, mothers, teachers and people in other groups and professions carrying the disease. Even if Muslims do not contribute to its spread, they can easily acquire it from those around hospitals, schools or while playing, especially children who may be lesions on the skin leading to the mixing of blood.

What is AIDS? It is an infective process in which the body's defense systems become so weak that they can no longer defend the body against infections and other disorders. It has a wide variety of symptoms including fever, pneumonia, skin lesions, neurological symptoms, heart lesions and even symptoms resembling lung or skin cancer. Several types of viruses (HTLV-1, HTLV-2, HTLV-3 and HTLV-4) have been isolated. It is believed that these viruses are prevalent in West

Africa in humans as well as monkeys. HTLV-3 is the actual virus that causes human AIDS. Others are usually asymptomatic carriers.

**The incidence of HIV virus worldwide is:**

United States, 1 million

South America, 1 million

Sub Sahara Africa, 6 million

Southeast Asia, 500,000

Australia, 30,000

Soviet Union, 20,000

China, 20,000

Europe, 500,000

The total number of known HIV Infections in the Middle East is only 30,000. HIV infection is the carrier state and will manifest in due course, maybe in 10 years, and may manifest as the AIDS syndrome in 10 years. Again, the US is leading all of the civilized world in the number of actual AIDS cases. The number of AIDS cases has increased to 220,000 as of 1994, and it is increasing at a geometric proportion.

The number of AIDS cases, for example in Japan, another developed country, is only 405. Out of the 10 million infected worldwide with HIV, 900,000 are children and newborns who got AIDS not with the practice of homosexuality but through their mothers who were either drug abusers or partners of AIDS cases. More than 55 percent of all the AIDS cases reported so far in the United States have already died. It is projected that by 1996, the number of AIDS cases in this country will double.

Of all the 21 Muslim countries in the Middle East, the total population is close to half a billion and only 366 AIDS cases have been reported so the lifestyle of not practicing homosexuality does help. Of all these 366 cases, again many are imported cases-imported from AIDS infested Western cities. It is also claimed that the actual number of AIDS cases in Muslim countries is much higher than they are reported.

AIDS is a terrible disease to have. It destroys the immune system totally so that the body has no defense against any infection. I have seen a few AIDS patients who have been in terrible physical shape, either from the disease or from the treatment. The life expectancy after acquiring the disease is only five years. The cost of one treatment of AZT alone is \$8,000 per year. The cost for education and prevention of AIDS in this nation is \$ 1 0,000 per person, and although many people are dying of cancer and heart disease, for example, in 1990, 800,000 Americans died of myocardial infarction, only \$3.50 per person is being spent on cancer prevention. The point I am making is that much of our money which should go for social reform and preventive health is going on AIDS, which could have been prevented if we did not have this epidemic.

Prophet Muhammad (PBUH) has said, "When sin afflicts people and they publicize it, then God subjects them to ailments unknown in their fore-fathers." (Reported in Tirmizi)

AIDS was not known to us 20 years ago. It was when homosexuality became an accepted way of life in this society and was publicized as "gay rights" that it became recognizable and manifested in disease.

Until 1970, the American Psychiatric Association considered homosexuality a disease. The solution that is being proposed to Americans is "protection." The only way one can prevent AIDS is to have "protection" when one engages in sex. The crime for Magic Johnson was not that he engaged in illegal sex or had sex parties, but that he did not have "protection" available when he did so. Prophylactics, then, are being advertised on bill-boards, on television, being dispensed in the schools and in clinics, and they will soon be available next to candy and cigarette machines

But is it going to work? No, it will not work because of several reasons.

"Prophylactics" are expensive. A good type costs about a dollar apiece, and a drug addict or a teenager will spend that dollar or the number of dollars he may use in one night on drugs or candy rather than on the protection. So it has to be freely available to as many people and as much as they want in order to make any dent.

Another point is the FDA study which says that one out of five condoms have failed the test to hold back the AIDS virus. That is because the AIDS virus is one-fifth the size of the sperm and, therefore, it is permeable. Now the (renters for Disease Control is coming up with new guidelines and are telling people to ask their sex partners some questions before engaging in sex. These are:

1. Have you ever been tested for HIV or other STD.
2. How many sex partners do you have.
3. Have you ever been with a prostitute.
4. For a woman to ask the man, "Have you ever had sex with a man?"
5. Have you ever had sex partners injected with drugs.
6. Have you ever had transfusions with blood products.

Now if one asks so many questions to his or her sex partner, it is doubtful that he or she will agree to have sex. They are also coming up with some new advice.

1. Don't do it (that is what we have been telling them); that is to say, abstinence may be unrealistic, but that is on the only sure thing.
2. Wear protection.
3. Use spermicide.
4. Be monogamous-that means "don't fool around." (That is what we have been told,
5. Avoid anal sex. (Islam has also prohibited that.)

But is all this education changing the lifestyles? Not really. In one survey, the question was asked that as a result of Magic Johnson's announcement that he had AIDS, did they practice safe sex now? Twenty-five percent said no. Did they talk to their children about AIDS? Twenty-seven percent said no. Did they limit the number of sex partners they have? Thirty-three percent said no. Have they had their blood tested to find out if they had the infection? Fifty-seven percent said no. Did they contribute to AIDS charities? Fifty-nine percent said yes. So giving charity to AIDS may prevent our getting it!!

There are many myths associated with the transmission of the disease. The AIDS virus infection is not acquired (or transmitted) via mosquitoes, food, water, toilet seats, swimming pools, sweat, tears, clothing or a handshake. Sexual transmission is the main mode as well as the victim's saliva. Next is the intravenous (IV) drug abuse and using a common needle. Some 17 percent of all AIDS cases are among drug users. The third method is direct transmission, i.e., infants born of AIDS-infected mothers (60 percent). Many cases of transmission through blood

transfusions have not been reported. All those who received blood in the U.S. after 1975 are required to have AIDS testing. However, nowadays all blood is screened thoroughly so that it is less likely to acquire AIDS from transfusion.

Those who are being tested for AIDS virus in the U.S. include new immigrants, blood donors, applicants for military service, some federal employees and homosexuals reporting to the emergency room with a febrile illness. One cannot refuse AIDS testing when asked by a physician, nor has one got to be informed before testing. Fifty percent of those who are found to have positive blood tests, of not already having AIDS, will develop it within five years.

Many antiviral drugs like Ribavirin, AZT, AL721, Aerosol Pentamidine, T-Peptide, etc., are being tried with some success. Anti-AIDS vaccine is also being researched and developed. There are hopes that a cure for cancer will be the by-product of AIDS research. But Muslims must not allow themselves into a false sense of complacency or hope. It is absolutely necessary to take precautions with blood or saliva contact. After all, precaution is always better than cure, especially when there is no cure for AIDS yet.

Other sexually transmitted diseases (STD's) are also increasing in the USA at an alarming rate. The annual incidence of syphilis is 130,000, gonorrhea 1.4 million, chlamydia 4 million, pelvic inflammatory disease 420,000 and genital herpes 500,000. Muslim societies in love with Western sexual freedom are also catching up. Muslims should realize that Islam's emphasis to them for leading a clean life, avoiding premarital and extramarital sex, anal sex and other perversions is in their best interest. In addition, they must take precautions when coming in contact with body fluids and insist on screening before accepting any blood transfusion while taking necessary precautions for themselves, Muslim physicians and paramedical personnel should continue to care for AIDS patients as they will care for other patients.

## **THE CARE MANUAL FOR THE MOST INCREDIBLE MACHINE**

For those who are physicians or who have studied human anatomy and physiology, they will agree that the human body is the most incredible machine ever produced.

They are surprised to confirm its hardware-bones, the delicate computer-the brain, the wiring-the nerves, the pump-heart, the pipes-circulation, the factory to digest-stomach, to ventilate-lungs, to eliminate waste-intestines, and organs-to reproduce, etc. Learning from the mechanics of the human machine, mankind has designed other machines such as camera, artificial joints, dialysis machine, computer and robots.

The machines the humans have made-for example, an automobile- needs constant care, service, correct gasoline and oil and the right battery. It needs routine service every three to six months and repairs every time it breaks down and only lasts five to ten years depending on how it is used. The machine devised by God, that is, the human machine, can last up to 140 years provided adequate care and maintenance is done and is not destroyed by disease, accidents and homicide.

What is the maintenance requirement of the human machine? Just like any car, you must put gasoline and oil of the right type; you must put in the human machine a good quality of product, that is food. If we feed our body junk food, that will become part of our body and therefore will affect the performance of the machine.

The food given to the body should be nutritious, balanced in food groups, i.e., carbohydrate, protein, fat and have vitamins and minerals like calcium, iron, and others.

It should be in moderate quantity to take care of the energy need and the body should not be used as a storage for unnecessary food material. If God wanted us to eat three times a day, he would have put it in the scripture saying, "You shall eat three times a day," but He did not. In fact, if you watch other animals, they eat when they are hungry and not breakfast, lunch and dinner which we human beings have devised.

Therefore we should eat to meet our need. For example, since we are active in the daytime, we must start the day with a breakfast that will provide some energy that will take of our physical activity afterwards. Lunch, however, is not that essential in terms of having a full meal but may be some snack or soup, about 200 calories will be needed. Similarly, an afternoon snack is better than an early dinner. Then, since there are going to be many hours of no food at night, it is better to have dinner or supper in the evening. We must try to keep our weight at or below the ideal body weight. The ideal body weight is calculated with 100 pounds for 5 feet and then 5 pound per inch with 10% plus for men and 10% minus for women. If you avoid several s's, i.e., salt, sugar, slippery food, second helping, and snacks, you will be able to avoid gaining weight.

The second maintenance item is rest. We are not able to rest when we need to take rest. Nighttime has been created for rest so that the body repairs can take place. You cannot keep a factory operating at 100% capacity and then do the repairs of the broken parts. Therefore, early to bed and early to rise makes a man healthy, wealthy and wise is not a wrong saying. An eight-hour sleep in the night is essential for good rest and refreshed body for the next day. Many of us stay up late

at night either doing our work or wasting our time watching TV or movies and therefore. when we wake up, we are tired and exhausted.

The third maintenance item is exercise which is essential for the lubrication of the joints and keeping the circulation intact in different organs and make the pump, the heart, work harder. Exercise does not have to be strenuous. Even five to ten minutes of exercise a day will have a much better effect later on. It lowers blood sugar, cholesterol and increased HDL which helps protect us from coronary artery disease. It improves the endurance and also improves the operation of many other internal organs.

The fourth point is fighting infection. Therefore we must have cleanliness and what would be the best way of cleanliness is washing the hands and face five times a day and taking a shower when one is dirty, having clean clothes and socks, inhaling clean air and drinking pure water for internal cleaning. These acts of cleanliness are considered half of faith. Fifthly, mental peace and tranquility or the spiritual care ensures a smooth flow of hormones and working of the organs. The more excited and tense we are, the harder the heart is working and will not be able to perform better by pumping blood more forcefully to distant places. Therefore, a slow heart rate achieved either by exercise or by mental and physical rest helps blood reach different organs in a better way.

Now if we go to the individual organs or parts of this human machine, we can summarize some maintenance items.

1. For the brain, enough oxygen by deep breathing or walking in the fresh air and improving the circulation by exercise will help memory and mental capacity. And again, thinking is a form of mental exercise and we are told in Quran "why don't you think?"
2. For lungs, we must have a clean nostril when we wash our faces and breathe through the nose rather than the mouth and avoid harmful items such as cigarettes.
3. For the liver, we must avoid toxins which come from different medications and infection.
4. For the stomach and intestines, we must use less spicy food and use the food which is high in bran and fiber. We must have good bowel movement every day to prevent storage of waste products in the intestines which sometimes can be partially absorbed.
5. For the heart and circulation, the best care involves eating a low cholesterol diet and a low-salt diet along with moderate exercise.

6. For the kidneys, we must ensure six to eight glasses of water a day and again avoid medications, especially antibiotics and pain killers which injure the kidneys.

7. Finally, just like my car requires an every 3,000-mile check-up, the human body requires an annual physical check-up by a physician to detect a problem before it becomes a major health hazard. These include a good physical examinations rectal examination, for women a Pap test and mammography, for men and women both a cholesterol screening, blood sugar check-up. blood pressure check-up and as necessary, may include chest x-ray or EKG, prostate examination for men, and routine chemistry profile. Hopefully, if we do all of these things, whether we live longer or not, we will be able to enjoy the life that we are given to live and return the body to its maker in good shape under good warranty.

### **THE ROLE OF MUSLIM PHYSICIANS IN AN ISLAMIC COMMUNITY**

When asked what actions are most excellent, Prophet Muhammad (PBUH) replied, "to gladden the heart of human beings, to feed the hungry, to help the afflicted, to lighten the sorrow of the sorrowful, and to remove the sufferings of the injured" (reported in the collection of Bukhari).

Thus, we physicians are uniquely qualified to do the above, and most of us are doing it on a daily basis. But are we doing it for the underprivileged and uninsured Muslims of our community?

In an Islamic community, if certain community efforts are under way, Muslims in general, and Muslim physicians, in particular, cannot remain uninvolved. Sooner or later they will become users. Their children will be attending Islamic school, and their spouses will be actively participating in various activities. Therefore, it is important that the Muslim physicians become active participants in such projects for the sake of seeking God's pleasure and also to provide an Islamic environment for their children, family and the community at large.

In the United States and Canada, out of an estimated population of eight million Muslims, there are about 18,000 physicians. Yet it is rarely that a Muslim is able to have a Muslim physician to take care of his health problems. Although the interaction is on the increase, still it is not a rule that a Muslim patient will seek a Muslim physician and vice versa. Apart from lack of availability and other difficulties, the major reason is under- and overexpectation from each other.

Many Muslim physicians forget that their privileged position in the community is only because of the mercy of Allah (SWT), and they have a responsibility to serve their fellow Muslims to the best of their ability. The majority of Muslims in North America are neither rich nor carry good medical insurance.

They are, therefore, unable to bear the full cost of expensive medical care in the US. Many of the Muslims area are also not old enough (over 65) to be covered by government health insurance for the elderly. It will indeed be unrealistic for a Muslim physician to expect payment of full fee from all Muslim patients.

Ignorance about health matters often results in the patient's refusal to take certain tests or follow a line of treatment. The physicians should be aware of this and should not blame the patient for not agreeing to take recommended tests or treatment.

### **MUSLIM PHYSICIAN'S ROLE**

The role of the Muslim physician can be divided into the following three areas.  
Providing Health Care to the Needy:

Muslim physicians should start a Friday or Sunday clinic at the mosque or community center, pooling their resources and free supplies. They should be able to provide first aid, take care of minor illnesses, and use free samples of medicines from their office. They should not accept a fee for themselves, but if a nominal fee is collected, it should go for the operation of the mosque. The Muslim physicians should also provide health screening for school age children and youth camp participants. They should conduct screening tests on healthy adults for monitoring their blood pressure, blood sugar, and vision examination.

### **Training of Paramedical Personnel**

Physicians should teach Muslims in the community to prepare a team of volunteers to do the following:

1. First aid and nursing.
2. CPR (cardiopulmonary resuscitation).
3. Taking blood pressure, temperature, pulse, visual testing and chart reading.
4. Nutritional education and health counseling.
5. Family and marital counseling.

## **Community Education**

Muslim physicians should develop a local speaker's bureau to educate the Muslim community in health matters because considerable ignorance in this area prevails among our people. Subjects to be covered should include:

1. Medical effects of smoking and how to quit.
2. Medical effects of obesity and how to eat a balanced diet.
3. Medical benefits of an exercise program.
4. Stress management.
5. How to watch for and prevent drug dependence in teenagers and adults.
6. How to recognize symptoms of diabetes, high blood pressure and coronary artery diseases.
7. How to prevent spouse and child abuse.

## **Role of the Community**

The Muslim community should support the efforts of their Muslim physicians.

They should not expect them to do unethical services,

such as calling in prescriptions without seeing the patient, or without going through the tests ordered, etc.

They should call him at his office rather than home (except for emergencies) and visit him in the office rather than expect him to make house calls. They should pay him his fee) if they can afford it. If not, prior arrangements should always be made.

The Muslim physicians should be extra nice to their Muslim patients in explaining the tests or effects of medicines and should be flexible in the fee charged.

## **My Experience in Indianapolis**

Several years ago, I, on my own, started a free health clinic at the Islamic Center in Plainfield. The clinic was formally inaugurated on an Eid Day by the then ISNA President Mohammed Qutbi Mehdi. I furnished the clinic with supplies from my office and operated on a weekly basis for an hour after Friday prayers and two

hours during Sunday School, seeing 5 to 6 patients each day. The clinic functioned well for two years. Due to a lack of space, the clinic was closed.. For the next few years, I operated the clinic from the trunk of my car, keeping all medicine samples and supplies along with my medical bag, and I saw patients after Friday Prayers at the old Al-Fajr Mosque in Indianapolis.

We now have a beautiful new mosque, and many more physicians are willing to work with me. Thus, we plan to restart Al-Fajr Clinic in the future, with the Will of God. I have also been involved in free health care to the homeless in the city by joining Gennesaret Free Clinic. I work at the mobile van which goes to shelters as well as provides care while parked on streets. It has worked well.

This clinic received President Bush's Thousand Points of Lights Award in 1992. "United to Serve America" bestowed their Diamond Award on me for outstanding volunteerism to the community. However, I seek only reward from God.

In summary, the Muslim physicians and the Muslim community should increase their commitment to each other for the pleasure of God.

## **EPILOGUE THE BOOK THAT LED ME TO MY CREATOR**

One of the best books I ever read was not a book on Islam or religion or written by a Muslim. It was a book about a fascinating machine which eventually led me to the Creator of that machine.

Thirty-two years ago at the young age of eighteen after receiving the highest position in both high school and pre-medical exams at the university, I entered medical school. While my mind was fresh with the knowledge of mathematics, algebra, chemistry, physics, biology and other branches of science, I was not sure what I was getting into in medical school. The first big book prescribed to me to read for the next two years was Gray's Anatomy, a book written about 100 years ago by the English surgeon Henry Gray. The book describes in detail the gross and microscopic anatomy of various body organs and systems. The diagrams and pictures and cross-sections of various organs were provided for illustration. They were all very fascinating to me, and to confirm what we read in the book, we were given a cadaver, a dead body, to dissect and study.

It was not an easy job for any of us, the young medical students, to sit hours and hours with a dead body, and cut sections of different organs, study them with the naked eye and with the microscope, and then to compare it with the illustrations in Gray's Anatomy.

When I started to look at the arrangements of thousands of bones, how they were joined together and were holding all the viscera and muscles, it was a revelation.

Although the bones were doing mostly mechanical work like an infrastructure of a factory, there was more depth to their presence. Each cell of the bone, although it appeared hard, calcified and dead, in fact was a living and ever-growing cell. I looked at all the muscles which were developed for various needs, and I could define their purpose of an intrinsic nature and the orders they were to carry for certain functions. If we did not have those muscles over our bones, the limits would still move but not with grace and beauty.

I looked at all the nerve fibers that were attached to the muscles. They were like electrical wires which carried messages from distant sensory organs to the brain, the command center, and from there to carry back the functions to the distant organs, the so-called afferent and efferent nerves.

Then I found out that there were two types of nervous systems, the so-called voluntary and autonomic nervous systems, one of which is under our conscious control, and the other which continues to work even while we are sleeping.

We must find out to whom does this involuntary control system responds and who is controlling the so-called autonomic nervous system.

It is fascinating to know that when we go against nature, the autonomic nervous system does not like it. For example, when we lie, we develop tremors of the hand, perspiration and palpitations. All these are signs which are used by lie detectors since the autonomic nervous system is not under our control.

When I looked at the dissection of the eye and knew that the present camera is built on the way the eye is built, the fascinating thing to learn was that our images are created inverted as we see them, but in reality, we do not see the inverted image but the correct image as we see it. So how does this inverted images which are formed in the brain become erect again? Nobody knows to date. That is this conscious control over the brain that makes US decide if our certain actions are good or not? Is it not the same conscious control of the brain on our judgment which is taken away when we put our system to sleep by taking sedatives and alcohol? When I looked at the skin, the protective covering of our bodies, it was more fascinating since skin was the only sensitive area of our body responding to pain. Therefore, when the skin is made numb by anesthetic agents, then it is easier for surgeons to cut the visceral organs.

Now many years later, I read the words in Quran to the effect that when the wrongdoers are burned in the hellfire because of their crimes, they will be given a

new skin so that they feel the pain continuously. How fascinating it is, that without a new skin, they could never receive the continuous pain after having been burned one time.

What distinguishes man from other animals, and especially mammals, is the special features of the thumb. It is the thumb which makes a man so skillful, such skills which other animals lack in terms of writing or other work that we do with the hand. Now when we look at the area of the brain which corresponds to the area of the thumb, the interesting thing is that the thumb by itself has an area even more prominent than the leg, although the thumb itself is a smaller organ than the leg.

All these portals of entry, whether they are skin or hand or eyes or the hearing mechanism, are given to man to receive information and make an intelligent decision based on that information. This fact has been recognized in the Quran, asking, "Have We not given you a tongue, a pair of eyes and hearing that you may decide which path you will choose for yourself?"

And what about the heart? Is it just an organ and a pump, or is it beyond that? When we say, "So and so is close to my heart," or when we say, "I thank you from the depth of my heart," what does it mean? Is this "disease of the heart" which is mentioned in the Quran, not coronary artery disease or valvular heart disease, but the disease of rejection of truth because the heart, by nature, should only accept the truth unless it is diseased?

So as I studied various organs in anatomy and pondered their intricate formation and intrinsic function and sophisticated fibers of nerves and two types of vessels, one to bring the impure blood to the lungs for purification and the other to take pure blood out of the heart for different functions, I could not believe the intelligence and mastery of the Creator of this machine.

As my knowledge of medicine increased in the following thirty-two years, so did my belief in the Creator of this machine. As an endocrinologist, I learned about these special messengers and hormones that give signals to different parts of the body to function appropriately at the time of need.

I learned that the fetus produces only inactive reverse T<sub>3</sub>, a thyroid hormone, but as the umbilical cord is tied and the baby is cut off from the hormone supply from the mother, this reverse T<sub>3</sub> immediately becomes the active T<sub>3</sub> which is the mirror image of reverse but inactive T<sub>3</sub>. How does this happen? Nobody knows. But now the fetus, on its own, needs T<sub>3</sub> for heat conservation and survival. This is again a miracle of the Creator of this machine. All these different organs and different components of this machine are indispensable. Human beings have devised some artificial machines like artificial knee or hip joints, but have not come close to

anything original. No one can put a dollar amount on all the components of this machine, but if one day they will be able to, it will be a billion dollar machine which was given to us as a gift and we were to be a trustee of this gift. We never realize this and we try to destroy this beautiful machine with cigarettes, alcohol, salt, sugar and fat, and we become sick as a result. We call it the will of God, which is not true. The human brain and the calculations it can make, and the decisions and logic it call arrive at, constitute a marvelous computer with feelings and emotions. A robot, in the words of a neurosurgeon, can be trained to do the surgery, but it will never learn when not to do surgery-and that's a beautiful decision making capacity of the human brain.

An artificial heart can pump blood, but it will never feel sad or happy. The two beautiful feelings that human beings have been given, nor can it ever be thankful. Thus, the best book is the one which led me to the Creator of this machine.