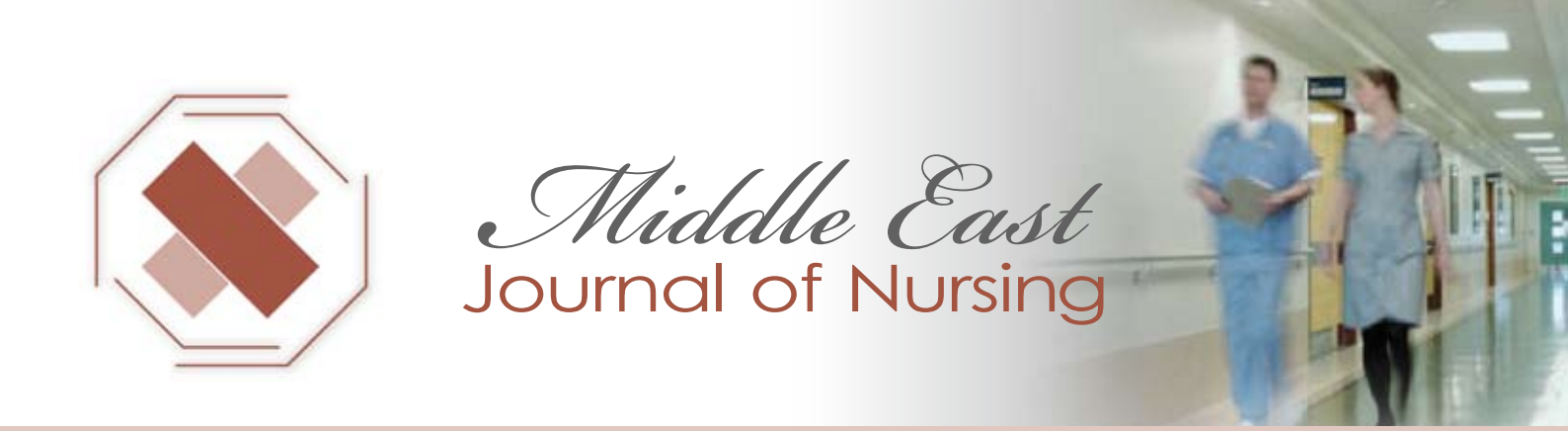

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Editorial

Original Contribution & Clinical Investigation

Education and Training

Community Nursing

From the editor

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This issue of the journal has papers ranging from issues related to diet, maternal and child health to dental prostheses. Özenoglu A, Ugurlu S, Caglar E, et al searched for the effect of a fibre rich dietary product on blood lipids and some mineral levels used as a part of dietary treatment of obese adult women.

The authors compared 2 women in the study group and 13 in the control group. The finding supported the conclusion that fibre rich, fat, sugar and salt free dietary products can be useful for the dietary treatment of not only obesity but also dislipidaemia and insulin resistant states.

A paper from Turkey studied 500 pregnant women's preference for place and type of delivery. The aim of this study is to define the socio-demographic traits, birth forms and the prenatal-antenatal care rates of women who preferred Zubeyde Hanim Maternity Hospital. The paper stressed that pregnancy and birth are periods during which women require a health centre most. Women's age, education level and socio-economic factors play an important role in preference of these health centres.

A paper from Jordan attempted to determine the prevalence of the type of denture fracture in three Military Hospitals in Jordan. Questionnaires were distributed to three different prosthetic laboratories in three dental departments in the Royal Medical Services. Results obtained showed that 45 % of repairs carried out were due to detached or debonded teeth. 30 % were repairs to midline fracture. The remaining 25 % were other types of fractures. In conclusion, the commonest type of fractures encountered were debonding / fracture of denture teeth in both complete and partial dentures followed by midline fracture of complete dentures. More upper complete and partial dentures were repaired than the lowers.

A correlational study was carried out in Iran to examine the impact of prayer on the spiritual well-being of 360 cancer patients undergoing chemotherapy who were referrals to Oncology ward of Cancer Centers of Iran and Tehran Medical Sciences Universities. The study revealed that significant relationship exists between spiritual well being with prayer practice, prayer experience and attitude toward prayer respectively.

A paper from Bangladesh discussed Human Rights of Accused Women in Criminal Justice in Bangladesh. Laws are made with the intention to reduce women-related crime and our main aim of this study is to give vent to the inhuman condition where the accused women are found to be victims of cruel and heartless treatments in the jails. Motamedi SH and Dadkhah A discussed the social and family factors effect on committing suicide among university students in Iran. The authors utilising a total of 100 students attempt to investigate the relationship between social and family factors and the idea of committing suicide among university students in Iran. The paper concluded that singles were more inclined to commit suicide than the married ones. Divorce, failure in education, age, and being female increase the risk.

CHARACTERISTICS OF DELIVERIES AT A MATERNITY HOSPITAL

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Key words: Maternity hospital, Socio demographic, Pregnancy

ABSTRACT

Introduction: The planning of the birthplace is considered as important as the pregnancy period. To be aware of the factors that have a strong effect on the preference of the maternity hospitals plays an important role in this planning. The aim of this study is to define the socio-demographic traits, birth forms and the prenatal-antenatal care rates of women who preferred Zubeyde Hanım Maternity Hospital.

Methods: This study focuses on 500 pregnant women who applied to Zubeyde Hanım Maternity Hospital between July 2005 and September 2005. The data has been obtained by the investigators who filled the survey forms, which were prepared by a research group, by way of face to face interview. For the statistical measurements SPSS 9.01 program was used.

Results: The average age of the study group was defined as 25.5 ± 5.2. 80.4% of women were from the town centre of Bursa, 18.4% were from small towns of Bursa and the other 1.2% were from other neighboring cities. When the women in the study group were examined according to their education, it became clear that 65.1% were primary school graduates, 22.2% high school graduates, 7% uneducated and 5.6% higher educated. Whilst 87.8% of women were housewives, just 12.2% were working ($p<0.001$). The birth form showed 58.4% normal spontaneous birth and 41.6% caesarian operations. Although 56.3% of women who had a caesarian operation were primary school graduates, 60.7% of higher educated women preferred a caesarian operation. It was observed that the caesarian operation rates, age of first birth and prenatal-antenatal care rates increased and the number of children decreased according to the education level.

Discussion: Pregnancy and birth are periods during which women most require a health centre. The women's age, education level and socio-economic factors play an important role in preference of these health centres. The primary care physician is the most important person who can examine the socio-demographic traits and preferences of the woman and can assist with the planning of the consultations during the pregnancy period and birth.

Introduction

To contribute to personal, familial and public health, to protect and improve maternal health at all stages of life, to resolve problems related with women's health, maternal and children's health and also reproductive health are important duties of family physicians in primary health care **(1)**.

The problems experienced by the mother before or during pregnancy and existent risk factors affect the unborn baby. It is important for the unborn baby to become a healthy individual and to detect the risk factors of the mother and the problems that arise before or during pregnancy which may cause symptoms or not **(2)**. By consulting their physicians, mothers must find out whether they carry risk factors and if so they must learn how their pregnancy, labor and babies will be affected and what to pay attention to. This can be only possible if mothers comprehend the importance of prenatal and antenatal care. Several factors such as maternal age during pregnancy, occupation, inhabitation, socio-economic and educational status can play a role in this comprehension. Also these factors may be effective for determining the appropriate delivery method **(3)**.

Therefore family physicians are responsible for determining every risk profile that can be experienced during pregnancy and follow-up within their responsibility scope. Towards the determination of the risk factors during pregnancy, planning the place of labor is important. In light of this knowledge. It can be observed that in our country some studies were performed about delivery methods, reasons for caesarean delivery and prenatal-antenatal care; also socio-demographic characteristics of pregnant women living in rural areas need to be investigated. Saka et al evaluated the socio-demographic characteristics and smoking status of pregnant women who gave birth at Diyarbakır Maternity Hospital, while Ozkaya wanted to show the annual birth rates and caesarean delivery

indications in Demirel University Obstetrics and Gynecology Clinic **(4,5)**. Bozkurt et al investigated the situation of receiving prenatal, natal and postnatal health care of married women aged 15-49 years, who were admitted to primary health care centers for any reason in Gaziantep, and also the factors affecting this situation[6]. However neither study could be found in literature that evaluates socio-demographic characteristics of pregnant women, delivery methods and prenatal-antenatal care status all together.

In this study defining the prenatal-antenatal care ratio and delivery methods of women who preferred Zubeyde Hanım Maternity Hospital, as well as socio-demographic features which affect these situations is aimed.

Materials & Methods

500 pregnant women were included to this study, who were admitted to Zubeyde Hanım Maternity Hospital in Bursa for delivery between June 2005 and September 2005. The study is based on questionnaire method. A questionnaire form including 23 questions relating to socio-demographic features, as well as characteristics of previous labors, prenatal-antenatal follow-up and delivery methods was prepared by investigators. In the course of the study, the method in which the research assistant who worked in the study group interviews with the pregnant woman, one to one interview was preferred. In this manner it was ensured that collecting data was more reliable. Analysis using descriptive statistics of data was performed using SPSS 9.01 computer software. Depending on characteristics of variables Pearson chi-square test and Fisher exact chi-square test were performed for categorical variables, while Kruskal-Wallis and Mann-Whitney U test of non-parametric tests were used to compare the groups for quantitative variables. Correlation analysis was performed to define the statistical significance of the relationship between quantitative variables.

Results

The mean age of pregnant women admitted to Bursa Zubeyde Hanım Maternity Hospital was 25.5±5.23. Of the cases 80.4% resided in Bursa, 18.4 in boroughs and villages of Bursa and 1.2% resided in other cities. 87.8% of the women were housewives while 12.2% were working at various jobs. Mean age of first delivery was detected as 22.5±3.81, mean pregnancy duration was 38.9±1.94 weeks and monthly income was 715.17±584.71 YTL. If the distribution of the women in the study group according to their educational status is examined it can be seen that 65.1% of the women were primary school graduated, 22.2% were high school graduated, 5.6% were college graduated and 7.1% were illiterate (Table 1).

56.2% of the cases gave birth to their first children; also 57.4% had no live children. During previous pregnancies 18.7% of participants had a history of abortion and/or curettage, 3.2% had a history of stillbirth and 1.4% had a history of giving birth to a baby with congenital abnormalities. Considering the type of the labor, 41.6% had a history of caesarean delivery while 58.4% had normal spontaneous vaginal delivery. 74.4% received prenatal-antenatal follow-up, whereas 25.6% did not receive this care.

There was a statistically significant difference between cities where cases resided and the history of a previous stillbirth ($p<0.05$) and prenatal-antenatal follow-up ($p<0.05$). The ratio of previous stillbirth was 2.8% and for prenatal-antenatal follow-up it was 74.9% in cases who resided in Bursa or its boroughs and villages, whereas the stillbirth ratio was 33.3% and prenatal-antenatal follow-up ratio was 20% in cases residing in other cities (Graph 1).

History of previous stillbirth and congenital anomaly with respect to the distribution of mean ages can be seen in Table 2. A statistically significant relationship was found between ages of the cases and the history of stillbirth and the history of congenital anomaly ($p<0.05$).

Correlation analysis revealed positive correlation between maternal age and total number of deliveries, also between maternal age and the number of abortions and/or curettages ($r=0.597, p=0.00$ and $r=0.275, p=0.008$ respectively); whereas there was a negative correlation between first pregnancy age and total number of deliveries ($r=-0.210, p=0.00$).

There was a statistical significance according to educational status and number of deliveries ($p<0.001$), first pregnancy age ($p<0.001$), number of live children ($p<0.005$), history of previous stillbirths ($p<0.001$), delivery methods and prenatal-antenatal follow-up ($p<0.001$). The relationship between educational status and mean number of deliveries, first pregnancy age and number of live children can be seen in Table 3.

There was a history of stillbirth in 20% of participants who were illiterate, 1.8% of those who were primary school graduated, 1.8% of those who were high school graduated and 3.5% of participants who were college graduated. Of the 64.7% of cases who were illiterate, 28% were primary school graduates and 12.8% were high school graduates and received no prenatal-antenatal follow-up care, whereas all college graduates received follow-up care. History of caesarean delivery existed in 48.6% of illiterates, 36% of primary school graduates, 51.4% of high school graduates and 60.7% of college graduates.

There was a statistical significance between occupation and prenatal-antenatal follow-up ($p<0.05$); while prenatal-antenatal follow-up ratio was 72.5% among housewives. It was 100% among working women.

Discussion

Defining the features that mother candidates possess is required to prevent medical or obstetrical complications that can occur during pregnancy. It is also very important to make a risk analysis, appropriate follow-up and delivery planning for mother and baby, together with the family.

In our study it was observed that cases who were admitted to the maternity hospital from outside of Bursa had a higher rate of stillbirth but lower prenatal-antenatal follow-up ratio during their previous pregnancies (33.3% and 20% respectively). But it is also possible that stillbirth ratio of these cases is higher because most participants in this study are from

Bursa and it's boroughs and villages, whereas the number of participants admitted from other cities was small and complication probability was higher in these cases because they didn't receive proper follow-up care.

Seven percent of the cases in our study were illiterate; whereas the ratio of illiterate pregnant women who gave birth at Diyarbakır Maternity Hospital between April 1997 and May 1997 was 54.6% in the study of Saka et al in which socio-demographic features and smoking status of pregnant women was investigated (4). Compared to our study this ratio seems too high; this difference in educational status could result from regional factors.

In the study of Ozkaya et al which investigated 1502 deliveries that took place at Suleyman Demirel University Obstetrics and Gynecology Clinic between years 1998-2002, the ratio of caesarean delivery was found to be 53.7% and normal vaginal delivery ratio was found to be 46.3% (5). The results of this study seem to be similar to the results of our study. However in a study that examines 5128 deliveries carried out in Dicle University Medical Faculty of Obstetrics and Gynecology, Clinic between years 1995-1999 retrospectively, the ratio of caesarean deliveries was 29.7% (7); also in another retrospective study that investigated 32,699 deliveries carried out in Kayseri Maternity Hospital between years 1998-2001, the ratio of caesarean deliveries was reported as 10.15% (8). In the study which investigated the methods of delivery performed during the last six years in SSK Ege Maternity Hospital, the ratio of caesarean deliveries was reported as 19.24%, whereas vaginal delivery ratio was reported as 80.76% (9). When we compare these results with our study it is seen that caesarean ratios are lower in these three studies. This could be due to the higher number of cases or because number of deliveries and delivery methods could be defined.

Mean ages of the cases who have a history of stillbirth or giving birth to a baby with congenital anomaly seem to be higher than cases who didn't have such a history. This may be related to the fact that women who have such a history get pregnant at an earlier age and they have a higher number of pregnancies.

In the study performed by Bozkurt et al which evaluated the prenatal, natal and postnatal care status of 500 married women aged 15-49 years who were admitted to primary health care centers in Gaziantep for any reason between March 1999-April 1999 and also the factors affecting this situation; it was found that 24.1% of the cases didn't receive any prenatal care during their last pregnancies and 10.2% of the cases gave birth to their children without help of any medical staff in their last pregnancies. This situation is thought to be due to living in rural areas, low educational status of woman and their spouse or lack of social security (6). In the study performed at a maternity & children's hospital in Adelaide, South Australia where 2000 women participated in the study, were of the same opinion that caesarean is an easy and appropriate method for delivery; but this situation was determined as independent from variables like age and educational status (10). In our study three-quarters of the cases seem to have received prenatal-antenatal follow-up. As educational levels rise, the mean number of deliveries and number of live children decreases but mean first pregnancy age increases; however as educational level decreases the ratio of prenatal-antenatal follow-up also decreases but history of stillbirth in previous pregnancies increases. 64.7% of illiterates received no prenatal-antenatal follow-up during their pregnancies and 20% of them had a history of stillbirth. As educational level raised the ratio of caesarean deliveries also increased. However caesarean delivery ratio of illiterate women was also high. Inadequate prenatal-antenatal follow-up and pregnancy complications, which probably occurred due to this situation could be effective for the high caesarean ratio of illiterate women. Higher caesarean ratio in participants with higher educational levels could be due to the increase in first pregnancy age or a social indication for caesarean decided between patient and physician. When housewives and working women were compared according to prenatal-antenatal follow-up status, it was found that all of the housewives had received prenatal-antenatal follow-up, whereas 72.5% of working women received such care. Low educational level of housewives could play a role in detecting this lower ratio of prenatal-antenatal follow-up.

In the study which investigated the demographical factors and factors that affect the fertility of 15-49 years aged married women in Malatya Yesilyurt, 20.5% of the cases were illiterate, 6% were literate, 58% were primary school graduated, 15.5% of cases were graduated from middle school or higher and mean first pregnancy age was 19.1±3.1. High delivery rate was evaluated in this study and it was observed that the number of live children negatively by first pregnancy age was younger than 20 years and educational status being primary school graduate or lower positively affected this situation (11) In our study, although mean first pregnancy age was higher than 20, number of deliveries was high in cases who had low educational levels. This result can be due to the fact that education makes women conscious of contraceptive methods and so they accept them.

Mean ages of cases with caesarean delivery history being low can be attributed to the high proportion of cases being housewives, low educational level and inadequate prenatal-antenatal follow-up.

As a result, pregnancy and labor are periods in which women need health care centers most. Age, educational status and socioeconomic factors are determinative for preferring these health care centers. In our study it was observed that inhabitation, occupational status and educational level are effective for receiving prenatal-antenatal care; additionally age of the mother, inhabitation and educational level affect the history of stillbirth during previous pregnancies; and finally educational level influences the selection of delivery method.

The family physician is the most important person who can help women by organizing the required consultations in the pregnancy period and by planning the labor, after evaluating her socio-demographic features and choices.

Table 1: General demographic features of the cases

Mean age	25.5±5.23
Mean first pregnancy age (years)	22.5±3.81
Mean duration of pregnancy (weeks)	38.9±1.94
Mean monthly income (YTL)	715.17±584.71
Inhabitation	
. Bursa	80.4%
. Boroughs and villages of Bursa	18.4%
. Other cities	1.2%
Occupational groups	
. Housewives	87.8%
. Working women	12.2%
Educational status	
. Illiterate	7.1%
. Primary school graduated	65.1%
. High school graduated	22.2%
. College graduated	5.6%

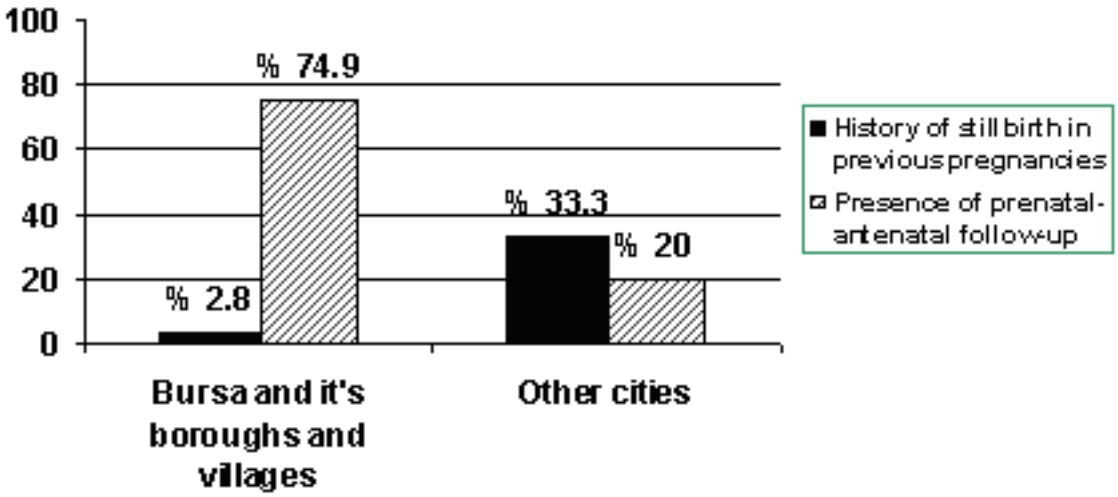
Table 2: Distribution of the history of stillbirth and baby with congenital anomaly in previous pregnancies with respect to mean ages.

	History of stillbirth in previous pregnancies		History of giving birth to a baby with congenital anomaly	
Mean age of the cases	YES	NO	YES	NO
	29.43±6.14	25.44±5.15	30.0±5.19	25.51±5.21

Table 3: Distribution of total number of deliveries, first pregnancy age and number of live children with respect to educational status

Educational status	Total number of deliveries	First pregnancy age	Number of live children
Illiterate	2.25±1.42	19.83±3.94	1.08±1.31
Primary school graduated	1.63±0.81	21.98±3.34	0.57±0.74
High school graduated	1.43±0.70	23.73±3.68	0.40±0.62
College graduated	1.35±0.48	27.0±4.58	0.35±0.48

Graph 1: Distribution of prenatal-antenatal follow-up and history of stillbirth in previous pregnancies according to habitation



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THE EFFECT OF A FIBRE RICH DIETARY PRODUCT USED FOR THE DIETARY TREATMENT OF ADULT OBESE WOMEN ON BLOOD LIPIDS AND SOME MINERAL LEVELS

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Key words: Obesity, diet, fibre, blood lipids

ABSTRACT

Background and aim: Obesity, that can lead to diabetes and dislipidaemia, is a growing health problem of modern life. Unhealthy nutritional habits and consumption of too much refined food are important factors contributing to this condition. This study was performed to search for the effect of a Fibre rich dietary product on blood lipids and some mineral levels, used as a part of dietary treatment of obese adult women.

Methods: A total of 25 adult women (12 in the study group and 13 in the control group) were taken into this study in which patients were selected randomly for both groups. At the beginning of the study, height, weight, waist and hip circumferences of all women were measured, and blood samples were taken for some biochemical parameters (fasting blood glucose, triglicerides, total cholesterol, HDL-C, LDL-C, VLDL-C, and serum levels of calcium, phosphorus, iron and iron binding capacity). Patients having some endocrinologic and metabolic disturbances and that need to use anti-obesity medications were not taken into this study. A low calorie weight loss diet was planned for all women in both groups, but women in the study group were also advised to use a specific dietary product filled with inulin and oligofructose including diabetic chocolate and rich in wheat fibre as an exchange for one slice of bread every day. No specific dietary product was advised to women in control group. Patients were controlled once a month with respect to weight loss and dietary adhesion until 3 months of treatment were completed. Biochemical parameters were repeated at the third month. Statistical analysis was performed by a computer program with Mann-Whitney U and Willcoxon tests.

Results: Although biochemical parameters taken at the beginning of the study didn't show any significant differences between groups, there were significant decreases for trigliceride, total cholesterol and VLDL-C levels in the study group after 3 months of treatment, but not in the control group. No significant differences were found with respect to the mineral levels in either group or between basal and end findings between study and control groups. Women in both groups lost weight, and their waist and hip circumferences decreased significantly.

Conclusion: We concluded that this fibre rich, fat, sugar and salt free dietary product can be useful for the dietary treatment of not only obesity but also dislipidemia and insulin resistant states.

Introduction

Obesity is a multifactorial disease which is defined as increased fat tissue of the body to above normal levels. It leads to an increase in risk for many diseases some of which are diabetes, coronary heart disease, hypertension, and also cancer. Aetiology of obesity includes genetic and environmental factors; unbalanced, especially high in fat diets; overeating; deficiency in physical activty; some disease conditions that cause a decrease in exercise; and also socio-economical status. Since it is impossible to change the genetic factors, the most suitable way for the management of obesity seems to control environmental factors. Nutritional modification according to individual needs and increasing physical activty are the most important environmental factors to be controlled. While technological developments have improved the quality of life, they have caused people to lessen their physical activity as well. On the other hand, increase in the power to buy goods have made people overeat especially preferring 'fast foods' which are high in fat, cholesterol, sodium and energy, but low in fibre, vitamins and minerals. An unavoidable result of this type of lifestyle is obesity and in turn leads to other obesity related chronic diseases. For these reasons, we conducted this study to investigate the effects of a fibre rich, fat, salt and sugar free, dietary product for weight loss and some biochemical parameters used for dietary treatment of obese women.

Patients and Methods

A total of 25 obese women who attend our Endocrinology Department and without any endocrinologic and/or metabolic disturbances over 15 years old, were taken into this study. Twelve subjects (mean age: 34.25±14.77 year) were in the study group and 13 (mean age: 37.51±11.71 year) in the control group. At the beginning of the study blood samples were taken from all subjects for basal fasting blood

sugar (FBS), trigliceride (TG), cholesterol, HDL, LDL and VLDL cholesterol and serum calcium (Ca), phosporus (P), iron (Fe) and iron binding capacity (FeBC) levels. Anthropometric measurements including height, weight, waist and hip circumferences, and body composition anlyses with a Bioelectrical Impedance Analyzer (BIA), were performed by a diet specialist. At least 3 days' food records were taken prepared by each patient to predict their nutritional habits and also indepth interview which is a qualitative method, was performed, taking at least one hour for each patient. After that, low caloric and nutritionally balanced diets were planned for all patients in both groups according to patients nutritional and social conditions. Patients in the study group were advised to intake a special dietary product filled with inulin and oligofructose including diabetic choclate and rich in wheat fibre, but free in fat, sugar and salt, equivalent to the carbohydrate content of one slice of bread (15 g), every day as bread exchange. This amount of fibre rich dietary product (20 g) adds to the patient's diet 5.5 g dietary fibre and 1.0 g cellulose every day. No special dietary product was advised to the patients in the control group.

All patients were seen once a month by either an endocrinologist or dietitian. Patients' weight reduction levels, waist and hip circumferences, and changes in body compositions were measured and than recorded, and their food intake was evaluated as to whether it was suitable to be advised diet or not. Patients who didn't regulary use special dietary products in the bstudy group were excluded from the study. Pharmacological treatment advised patients were not taken into this study. The results were statistically analysed by a computer program with Mann Whitney-U and Willcoxon tests.

Results

Anthropometric measurements of both groups at the beginning and the end of the study are shown in Table 1.

Biochemical parameters taken at the beginning for both groups were compared in Table 2a. Biochemical parameters taken at the end of the study are shown at Table 2b. There were significant differences between only serum iron binding capacities of the groups taken at the beginning of the study. After 3 months of treatment, FBG levels showed significant differences between groups.

Findings of the study group taken at the beginning (basal) and the end of the study are shown at Table 3a.

Weight, BMI, waist and hip circumferences of women in the study group reduced significantly by the end of the study. Trigliceride, cholesterol ve VLDL cholesterol levels also showed significant decreases. But no significant difference was found in mineral levels.

Findings of the control group belong to basal and the end of the study, are given in Table 3b.

After 3 months of treatment, mean weight and BMI of the control group showed a very significant decrease compared to the basal values. Also, waist and hip circumferences decreased significantly. There were not any significant differences in mineral levels.

Discussion

The affluent western lifestyle is associated with many chronic diseases including diabetes, coronary heart disease (CHD) and cancer. The relationship between lack of physical activity, excessive feeding and chronic diseases is well known. The dietary Fibre hypothesis (1,2) has drawn attention to the fact that these diseases are because of a deficiency of dietary fibre. Many studies based on observation have provided data that the consumption of whole-grain cereals have a beneficial role in reducing CHD. In addition, it has been suggested that consuming a lot of whole-grain food reduced the risk of diabetes (3,4), hypertension and some types of cancer (5).

An increase in body weight contributes to the risk of diabetes and CHD in addition to causing insulin resistance. Because of this reason, it is suggested that it would be beneficial for obese subjects to eat fibre. In addition to studies showing a positive effect of water-soluble viscous fibre and low-glycemic index diets on the risk factors of diseases associated with insulin resistance, there are also studies which prove that serum lipids, carbohydrate tolerance and glycemic control improve with insoluble wheat bran (6). In our study, we used a specific dietary product rich in wheat, oat and apple fibre (%28) and filled with diabetic choclate including inulin, isomalt and oligofructose. When some parameters of the groups before and three months after therapy were compared, it was seen that triglyceride (TG), cholesterol and VLDL cholesterol levels decreased significantly after therapy in the study group (Table-3a); no such change was observed in the control group (Table-3b). In both groups, weight, BMI, waist and hip circumferences decreased significantly after 3 months (Table-3a,b). Mineral levels didn't show any significant difference in both groups. We thought that inulin and oligofructose which have prebiotic properties, might effect positively for absorption of these minerals.

It is said that when inulin and oligofructose which are non-absorbable carbohydrates, are added to a diet, they cause a significant increase in the colonic bifidobacteria population(7). Inulin and oligofructose are fermented totally by colonic microflora to produce acetat and other short chain fatty acids. Together with dietary fibre and other non-absorbable carbohydrates, they play important roles in decreasing blood cholesterol, postprandial hypoglycaemia, immune stimulation, and vitamin synthesis (7-9). Studies on rats showed that inulin and oligofructose intake to nearly 10% of a diet, cause a decrease in hepatic trigliceride synthesis and serum VLDL levels (10-12).

According to the results of our study which was compatible with the literature, we can say that this dietary product rich-in-fibre and free in fat, salt and sugar might be useful for not only weight reduction diets; but, also in the presence of diabetes, dyslipidemia, and obesity. It is also evident that foods rich-in-fibre will help to prevent constipation which is an important problem in subjects of almost all ages from different parts of the community.

As a result of the advances in technology, the consumption of ready to eat refined fast-foods has increased, leading to an increase in the frequency of diseases like obesity, diabetes, dyslipidemia and cancer. We can say that this fibre-rich dietary product which has a similar constitution to natural foods can be used not only for the treatment of some diseases, but also can be included in healthy nutritional programmes to help prevent chronic degenerative diseases.

Table 1: Comparison of anthropometric measurements of both groups.

Parameter	Study group		Control group		
	Mean	SD	Mean	SD	p
Age (year)	34.25	14.77	37.31	11.71	0.611
Height (cm)	155.50	6.61	158.08	7.71	0.503
Weight 1 (kg)	90.83	30.42	96.77	17.41	0.087
Weight 4 (kg)	82.38	28.30	89.19	14.44	0.087
BMI 1 (kg/m2)	37.57	11.38	39.04	8.50	0.186
BMI 4 (kg/m2)	34.19	10.71	35.99	7.26	0.137
Waist cir. 1 (cm)	99.92	21.19	104.15	10.41	0.186
Waist cir. 4 (cm)	93.46	22.32	99.15	8.68	0.077
Hip cir. 1 (cm)	122.83	20.27	127.31	13.67	0.186
Hip cir. 4 (cm)	117.38	19.56	121.31	11.49	0.186
WHR 1	0.81	0.05	0.82	0.06	0.769
WHR 4	0.79	0.06	0.81	0.05	0.270

BMI: Body mass index,
WHR: Waist/hip ratio,
1: Measures taken at the beginning of the study,
4: Measures taken at the end of the study.

Table 2a: Comparison of basal biochemical parameters of the groups.

Parameter	Study group		Control group		
	Mean	SD	Mean	SD	p
FBG (mg/dl)	91.92	13.15	97.77	12.14	0.247
Trigliceride (mg/dl)	117.33	30.17	138.46	78.84	0.574
Cholesterol (mg/dl)	213.42	45.31	201.85	29.77	0.503
LDL-C. (mg/dl)	137.17	39.39	126.77	27.43	0.728
HDL-C (mg/dl)	52.66	15.61	46.60	10.02	0.186
VLDL-C. (mg/dl)	23.50	6.12	28.62	15.77	0.406
Fe (mic/dl)	74.29	19.14	81.89	36.86	0.837
FeBC (mic/dl)	342.29	31.83	383.00	31.79	0.031*
Calcium (mg/dl)	10.16	0.53	9.93	0.30	0.383
Phosphorous (mg/dl)	3.90	0.77	2.53	0.39	0.057
Hemoglobin (g/dl)	12.69	1.01	13.24	1.35	0.232
Hematocrit (%)	36.89	1.62	38.30	3.61	0.536

Table 2b: Comparision of biochemical parameters taken after 3 months of the study.

Parameter	Study group		Control group		
	Mean	SD	Mean	SD	p
FBG (mg/dl)	89.50	14.04	100.00	9.97	0.005**
Trigliserid (mg/dl)	94.25	35.90	135.15	62.89	0.060
Cholesterol (mg/dl)	191.83	36.13	201.92	30.75	0.470
LDL -C (mg/dl)	125.83	28.25	131.08	29.49	0.689
HDL -C (mg/dl)	47.16	8.92	44.56	11.19	0.406
VLDL-C (mg/dl)	18.93	7.32	26.38	12.97	0.123
Fe (mic/dl)	73.63	31.88	63.64	22.51	0.492
FeBC (mic/dl)	321.50	39.14	338.55	44.22	0.542
Calcium (mg/dl)	9.87	0.51	9.81	0.45	0.852
Phosporus (mg/dl)	3.07	0.21	2.60	0.60	0.400
Hgb (g/dl)	12.90	1.09	12.63	0.94	0.836
Hct (%)	37.01	2.91	36.86	2.17	0.836

**: highly significant

Tablo 3a: Comparison of basal and the end findings of the study group

Parameter	At the beginning		After 3 months		
	Mean	SD	Mean	SD	p
Weight (kg)	90.83	30.42	82.38	28.30	0.002**
BMI (kg/m2)	37.57	11.38	34.19	10.71	0.002**
Waist cir. (cm)	99.92	21.19	93.46	22.32	0.002**
Hip cir. (cm)	122.83	20.27	117.38	19.56	0.002**
WHR	0.81	0.05	0.79	0.06	0.066
FBG (mg/dl)	91.92	13.15	89.50	14.04	0.184
Trigliceride (mg/dl)	117.33	30.17	94.25	35.90	0.019*
Cholesterol (mg/dl)	213.43	45.31	191.83	36.13	0.019*
LDL C (mg/dl)	137.17	39.39	125.83	25.25	0.117
HDL -C. (mg/dl)	52.66	15.61	47.16	8.92	0.062
VLDL-C. (mg/dl)	23.50	6.12	18.93	7.32	0.026*
Fe (mic/dl)	74.29	19.14	73.63	31.88	1.000
FeBC (mic/dl)	342.29	31.83	321.50	39.14	0.138
Calcium (mg/dl)	10.16	0.53	9.87	0.51	0.414
Hgb (g/dl)	12.69	1.01	12.90	1.09	0.588
Hct (%)	36.89	1.62	37.01	2.91	0.500

Hgb: Hemoglobin, Hct: Hematocrit

Table 3b: Comparision of the findings of control group taken at the beginning and the end of the study.

Parameter	At the beginning		After 3 months		
	Mean	SD	Mean	SD	p
Weight (kg)	96.77	17.41	89.19	14.44	0.001***
BMI (kg/m2)	39.04	8.50	35.99	7.26	0.001***
Waist cir. (cm)	104.15	10.41	99.15	8.68	0.002**
Hip cir. (cm)	127.31	13.67	121.31	11.49	0.002**
WHR	0.82	0.06	0.81	0.05	0.843
FBG (mg/dl)	97.77	12.14	100.00	9.97	0.624
Trigliserid (mg/dl)	138.46	78.84	135.15	62.89	0.972
Cholesterol (mg/dl)	201.85	29.77	201.92	30.75	0.727
LDL -C (mg/dl)	126.77	27.43	131.08	29.49	0.600
HDL -C (mg/dl)	46.60	10.02	44.56	11.19	0.308
VLDL-C. (mg/dl)	28.62	15.77	26.38	12.97	0.583
Fe (mic/dl)	81.89	36.86	63.64	22.51	0.176
FeBC (mic/dl)	383.00	31.79	338.55	44.22	0.063
Calcium (mg/dl)	9.93	0.30	9.81	0.45	1.000
Hgb (g/dl)	13.24	1.35	12.63	0.94	0.593
Hct (%)	38.30	3.61	36.82	2.17	0.715

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DENTAL FRACTURE - A SURVEY

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Key words: denture fracture, military, repair, acrylic resin, (polymethyl methacrylate).

ABSTRACT

Background and aim: Objective: To determine the prevalence of type of denture fracture in three Military Hospitals in Jordan.

Method: Questionnaires distributed to three different prosthetic laboratories in three dental departments in the Royal Medical Services

Results: Results obtained showed that 45 % of repairs carried out were due to detached or debonded teeth. 30 % were repairs to midline fracture. The remaining 25 % were other types of fractures.

Conclusion: The commonest type of fractures encountered were debonding / fracture of denture teeth in both complete and partial dentures followed by midline fracture of complete dentures. More upper complete and partial dentures were repaired than the lowers.

Introduction

The loss of teeth is a matter of great concern to the majority of people and their replacement by artificial substitutes, such as dentures is vital to the continuance of normal life.

One of the problems encountered in the provision of such prostheses is whether limitations of strength and design meet the functional demands of the oral cavity.

The fracture of acrylic resin dentures is an unresolved problem in removable prosthodontics [1-3]. Attempts to analyze and determine the cause of such fractures have received considerable attention in recent years [2-4]. A multiplicity of factors may be responsible for the ultimate failure of a denture and failure is not necessarily due to the intrinsic properties of the denture base material [5].

Fractures in dentures result from two different types of forces, namely flexural fatigue and impact. Flexural fatigue occurs after repeated flexing of a material and is a mode of fracture whereby a structure eventually fails after being repeatedly subjected to loads that are so small that one application apparently does nothing detrimental to the component. Impact failures normally occur out of the mouth as a result of a sudden blow to the denture or accidental dropping due to cleaning, coughing or sneezing (2, 6-7).

Fractures are more common in the midline of maxillary complete dentures(2,3) , furthermore, fractures of repaired dentures often occur at the junction of old and new material rather than through the centre of the repair(8).

The material most commonly employed in the construction of dentures is the acrylic resin (poly methyl methacrylate). This material is not ideal in every respect but it is the combination of virtues rather than one single desirable property that accounts for its popularity and usage. Despite its popularity in satisfying aesthetic demands whereby, with an appropriate degree of clinical expertise and with the careful selection and arrangement of artificial acrylic teeth, it is possible to produce a prosthesis, which defies detection, it is still far from ideal in fulfilling the mechanical requirements of a prosthesis (9).

Despite this significant problem, there are no published data in Jordan on the prevalence or type of fractures.

The purpose of this survey was to analyze the type of failure encountered by distributing questionnaires to three different prosthetic laboratories in three dental departments in the Royal Medical Services.

Method

The three prosthetic laboratories chosen for the study were in different hospitals of the (RMS): Out-patient clinics-King Hussien Medical Centre, from October 2001 to April 2002, Prince Rashid Bin Al-Hassan Hospital, from April to October 2002 and Prince Hashim Bin Al-Hussien Hospital from February to August 2002.

The laboratories were instructed to complete the questionnaire for each repair received over a period of 6 months and they were under direct supervision of the authors.

However, there was considerable uncertainty and vagueness in the response from many patients and the reliability was suspect and therefore this data was not used in the analysis.

The data collected related to:

A. The appliance type (complete or partial denture), material of denture base (acrylic resin or metal), presence of diastema and / or notch and incorporation of strengtheners and / or soft lining material.

B. The fracture number of times fracture had occurred, location (same or different place), cause (chewing or accidental) or notch / diastema included in the fracture line.

C. The teeth debonded or detached addition of teeth or fractured teeth.

D. Previous attempts of repair. The results were analysed to identify the types of repair encountered and possible ways of overcoming the problems were considered.

Results

Questionnaires were distributed to the three laboratories, of which 669 were completed and returned (Table 1). Of those returned, 84 involved new additions and have been excluded.

A total of 585 repairs is therefore included in this survey. Table II gives details of the types of appliances

repaired. 201 upper complete dentures were repaired and approximately twice as many lower complete dentures were repaired as lower partials. 266 upper partial dentures were repaired. Nearly all the dentures repaired had fractured in the mouth whilst chewing with 3 lower dentures having been dropped accidentally. Three dentures showed evidence of previous attempt of repair. Almost half the dentures repaired had broken for the first time; the remainder had broken either twice or more in different places.

The majority of dentures, both complete and partial were made of acrylic resin (Table 3). Only 23 had some form of "strengthener" incorporated and 9 had soft linings.

From Table IV, out of 585 repairs, 262 were due to replacement of teeth that had either debonded or fractured. These were more commonly seen in the upper complete dentures and upper partial dentures. 178 were associated with midline fractures, the majority of which were seen in upper complete dentures (117). Where either a notch or diastema, or both, were present in upper complete dentures, these were involved in the fracture line. From a total of 117 fractures: 48 involved a notch, 6 involved a diastema and 39 involved both notch and diastema. Slightly more than half the lower complete dentures repaired were midline fractures of which 27 involved a notch.

Of the 266 repairs to upper partial dentures 13 were midline fractures. The remainder was associated with fracture of the connector horizontally in the anterior region (nearly all upper partial dentures replaced at least one anterior tooth)

Where the prosthesis was made of metal, the fracture invariably involved detachment of an acrylic resin saddle with lower partial dentures; the commonest site of fracture was either in the anterior region or in the premolar region.

Table 1. Questionnaire response by dental laboratories.

Hospital	Questionnaire returned	New additions (excluded)	Repairs included
Out-patient clinics (KHMC). Lab. 1	169	16	153
Prince Rashid Bin Al-Hassan hospital. Lab. 2	268	37	231
Prince Hashim Bin Al-Hussien hospital. Lab. 3	232	31	201
Total	669	84	585

Table 2. Types of appliances repaired by the three different laboratories.

Denture type	Laboratory 1	Laboratory 2	Laboratory 3	Total
Complete upper	48	84	69	201
Complete lower	21	33	24	78
Partial upper	78	96	92	266
Partial lower	6	18	16	40
Total	153	231	201	585

Table 3. Material s used in the construction of the dentures.

Denture type	Material of base		Strengthener	Soft lining
	Acrylic	Metal		
Complete upper	195	6	7	3
Complete lower	78	0	2	3
Partial upper	255	11	13	0
Partial lower	37	3	1	3
Total	565	20	23	9

Table 4. The category of repair reported in relation to denture type.

Denture type	Debonded teeth	Fractured teeth	Midline fractures	Others	Total
Complete upper	68	6	117	10	201
Complete lower	17	2	48	11	78
Partial upper	147	9	13	97	266
Partial lower	12	1	0	27	40
Total	244	18	178	145	585

Figure 1. Denture fracture - Questionnaire

Patient's details

Name:
Age:
Sex:

Appliance

Type:
Complete
Upper
Lower
Partial
Upper
Lower

Material:
Acrylic resin
Metal

Age:

Presence of diastema / notch.
Diastema
Notch
Both

Incorporation of strengtheners / soft liner.
Strengthener
Soft liner
Both

Fracture

Number of times:

Location of fracture:
Same place.
Different place.

Cause:
In function
Accidental

Fracture line (involvement of):
Notch
Diastema
Both

Teeth

Debonded
Dettached

Previous attempt of repair

Yes Number of times
No

Discussion

The results of this survey show that out of 585 repairs carried out over a period of 6 months, approximately 45 % were due to debonding / fracture of teeth from the denture base resin.

Despite advances in technology, it can be seen that the detachment of denture teeth remains a significant problem and the number of debonding has not decreased.

The strength of the bond achieved at the tooth / denture base interface may be related to the degree of cross-linking and extent of copolymerisation of the acrylic resin tooth and denture base. However, poor laboratory technique involving faulty boil out procedures and indiscriminate use of separating medium have been stated as the more common causes preventing optimum bonding from being achieved between the denture base resin and tooth.

It has been shown that in dentures subjected to bending deformation, tensile stresses are encountered with the area lingual to the incisors being the most heavily stressed. Eventual failure at the tooth / denture base interface will occur when cracks originating from the highly stressed areas propagate[10].

When the bond with the denture base has already been compromised the increase in stress concentration during function (in area of inadequate bonding) enhances crack propagation and eventually detachment of the teeth is seen. The problem of tooth debonding may be exacerbated by heavy or uneven masticatory loads (e.g. clenching or tooth grinding), unbalanced occlusion and patient-related habits such as pipe smoking.

In this study, a higher proportion of teeth were found to be debonded from partial dentures. This can probably be attributed to the higher masticatory loads encountered when natural teeth oppose artificial teeth.

Midline fractures represented 30 % of the total denture repairs carried out. Of these, 66 % were seen in upper complete dentures and 27 % were seen in lower complete dentures. These findings are consistent with other studies, [3, 11] which have shown the midline fracture to be a common and persistent problem in upper complete dentures. This type of fracture has been shown to be a flexural fatigue failure due to acrylic deformation of the base whilst in function where flexure of denture base occurs along the midline.

Both the presence of notches and diastema act as stress concentrators, thereby influencing the risk to fracture. This is confirmed from the findings of this survey, which reveal that where notches or diastema are present they are involved in the fracture.

Other factors affect the deformation of the denture base thereby facilitating fracture such as: (1) Variation in denture base contour. (2) Changes in the supporting tissues. (3) Tooth wear.

A majority of midline fractures can be avoided by the application of established prosthetic principles during denture construction (i.e. even and adequate bulk of denture base material cured, relief of incompressible tissues in the centre of the hard palate, addition of the labial flange to increase rigidity of denture base and even and balanced occlusion to reduce wedging effect and locking the occlusion) and the improvements in denture base resin and the reduction of stress concentration such as notches and diastema to a minimum would also help prevent these fractures.

In partial dentures, 40 % of repairs were related to fracture of the connector in the all acrylic resin dentures and detachment of an acrylic resin saddle in the metal denture.

Upper partial dentures represented the majority (45 %) of repairs. This would be explained by the fewer lower dentures worn and possibly fewer produced by the dentist.

The problem of acrylic resin fracture can be reduced by the careful designing of dentures and the use of the improved high impact resins.

The value of incorporating "strengtheners" which were largely seen in upper partial dentures remains questionable. It has been reported that the insertion of metal wire or metal mesh as strengtheners into acrylic resin dentures is not very satisfactory [12].

In cases of repeated fractures, which are more likely encountered where a complete upper denture opposes a lower natural dentition, the use of a high impact (Rubber graft copolymer) or fibre reinforcement should be considered [13].

Conclusion

It is concluded that the commonest type of fractures encountered are debonding / fracture of denture teeth in both complete and partial dentures followed by the midline fracture of complete dentures.

More upper complete and partial dentures are repaired than lowers; this could be accounted for by the fact that more upper dentures are worn than lowers.

In partial dentures, detachment of the acrylic resin saddle from the metal framework or fracture of the acrylic resin saddle in the anterior region continues to pose problems.

Repeated fractures can be reduced by careful attention to the design and construction of dentures particularly during the laboratory stages.

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HUMAN RIGHTS OF ACCUSED WOMEN IN CRIMINAL JUSTICE IN BANGLADESH

ABSTRACT

Laws are made with the intention to reduce women-related crime and our main aim of this study is to give vent to the inhuman condition where the accused women are found to be victims of cruel and heartless treatments in the jails. Our study is also related to human rights and in criminal justices especially, where accused women chained in the jails, experience so much untold and heartless cruelty.

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Key words: Human rights, accused women, criminal justice, Constitution of Bangladesh.

Introduction

Bangladesh is a densely populated country with limited resources. The women constitute nearly 50% of the total population and about 74.4 millions female population live in this country; among them 37% aged less than 15 years, 52% aged 15-49 years and only 11% aged 50 and above and the life expectancy of females is 62 years [1]. The term 'human being' is inextricably and indispensably related to two basic concepts, male and female, in the absence of one, the other is meaningless. Male and female, are given protection against violation of human rights equally regardless of their origin, place of birth, nationality or other factors. However, any of those human rights guaranteed as fundamental human rights may be subjected to restriction, suspension or curtailment for several reasons. Accusations brought against a human being is one of the other mentionable grounds, which may be a cardinal factor for the restriction, suspension or curtailment of any of the rights guaranteed to him/her as fundamental human rights. It does not mean the total curtailment, suspension or restriction of the right altogether. Male as well as female segments of the society undeniably have rights even in the event of their being treated as accused. Thus the main objective of this study is to ponder over those rights guaranteed to a woman accused of a criminal offence.

2. Constitutional guarantees of the women accused

The Constitution of Bangladesh contains some provisions relating to the rights of the accused, either male or female. The Constitution provides that all are equal before law and entitled to equal protection of law [2]. The implication of the term equality before law and equal protection of law is that nobody shall, on the grounds only of religion, race, caste, sex or place of birth be subjected to any disability, liability, restriction or condition. Equal treatment in the courts of law by the authority has been guaranteed to every citizen and non-citizen, male or female alike. Everyone has been endowed with the protection of law and it has been guaranteed that no action detrimental to the life, liberty, body, reputation or property of any person shall be taken except in accordance with law [3]. So, everybody is subject to same treatment regardless of sex in the eye of law.

Anybody's life or personal liberty cannot be curtailed provided the provisions of law for the time being in force, which provide for such infringements [4]. Arrest and detention issues have been properly delineated in the said Constitution. It has also been said that every arrested person shall be communicated with the grounds of his/her arrest within twenty-four hours excluding the time necessary for the purpose of carrying the arrestee to the nearest Magistrate Court from the place of such arrest [5]. Every arrestee shall be provided with the facilities of the right to consult and be defended by a legal practitioner of his/her choice [6]. So, the accused irrespective of sex is on an equal footing, and entitled to such rights. These rights, guaranteed to an accused whether male or female, are not absolute and beyond any limitation. Any person who is arrested under the preventive detention order may be denied any of those rights. An accused is not to be prosecuted and punished for the same offence more than once and it is equally applied to both male and female [7]. It is one of the fundamental rights of an accused to be punished for the commission of an offence which is a punishable offence under the law in force and he/she should not be subjected to a penalty greater than or different from, that which might have been inflicted under the law in force at the time of the commission of the offence [8]. Every accused either male or female enjoys the right to a speedy and public trial by an independent and impartial court or tribunal established by law [9]. No person accused of any offence is compelled to be a witness against him/herself [10] while no one is to be subjected to torture or to cruel, inhuman, or degrading punishment or treatment [11].

3. Women as arrested & detained persons

A person may be imprisoned either as an arrested or detained person. Either male or female may fall into this category. The laws regarding arrest and detention are not similar. There

exists a separate law to deal with each of the issues. In Bangladesh, the Code of Criminal Procedure (Cr. P.C.), 1898 deals with the provisions regarding arrest.. Chapter V of the said Code expresses the provisions of arrest in Bangladesh [12]. Under this chapter arrest may be made generally [13] and it may also be made without warrant [14]. Both male and female may be arrested under the provisions of this chapter. While arresting anybody under these provisions, the Police Officer or person concerned making arrest has been empowered to make actual touch of the body of the person to be arrested [15]. In case of women the female police would should touch the accused but the practice is different from existing law. The Police Officer or person concerned making the arrest has also been allowed to use all necessary means to ensure the arrest if the person to be arrested makes any endeavour or attempt to evade the arrest [16]. The Police Officer or person concerned making the arrest has also been empowered to cause the death of the person to be arrested in such situation if he/she is accused of an offence punishable with death or with imprisonment for life [17]. Again a Police Officer has been empowered to arrest any person without an order from a Magistrate and without a warrant under the provision of Section 54 of the Cr. P. C. [18].

On the other hand detention is made following the provisions of the Constitution of Bangladesh. Article 33 of the said Constitution speaks of the provisions regarding detention of any person [19]. Under this law, any person whether male or female may be arrested and detained before committing any cognisable offence if reasonable apprehension exists in the mind of the authority that he/she may commit such offence if he/she is allowed to move freely.

Anyway, both male and female who have been arrested and detained both under general and special laws have some basic human rights. It is a common provision that the female prisoners should be separated from the males. Again, an arrested or detained woman who is pregnant should be given special care and attention. If a person is arrested under general law following the order of a Magistrate or without the order of a Magistrate, he/she would be placed before the Magistrate within twenty four hours excluding the time necessary for the journey from the place of arrest to the court of the Magistrate. He/she should be communicated with the grounds of such arrest [20]. But this right has been denied to a person who has been detained or arrested under any law providing for preventive detention [21].

4. Search & seizure of women accused

Due to the difference of sex, women need to be searched in a special way and the process of searching of a woman is totally different from that of a man. There exists particular provisions' regarding the search of women accused. Search may be of two kinds; the place suspected to be the abode of the accused may be required to be searched in order to find out and ensure about whether the accused is actually there. In that situation, the person acting under a warrant of arrest, or any Police Officer having authority to arrest has reason to believe that the person to be arrested has entered into, or is within, any place, the person residing in, or being in charge of, such place, shall, on demand of such person acting as aforesaid or such Police Officers, allow him free ingress thereto, and afford all reasonable facilities for a search therein [22]. If the demand mentioned above is not fulfilled then the person acting under a warrant of arrest or the Police Officer is empowered to break open any outer or inner door or window of any house or place, whether that be of the person to be arrested or of any other person [23]. If that place where the accused is suspected to be residing is an apartment in the accused's occupancy of a woman, not being the person to be arrested, who according to custom, does not appear in public, such person or Police Officer shall, before entering such apartment, give notice to such woman that she is at liberty to withdraw and shall afford her every reasonable facility for withdrawing, and may then break open the apartment and enter it. After arrest is made, the arrested person, male or female, may be searched by the Police Officer arresting the accused or in case of private individual, the Police Officer to whom the private individual makes over the arrested person and the search should be made in a safe custody [24]. All articles other than necessary wearing apparels found upon him may be searched. The female arrestees are, in a bit, taken under special provision in this case. If it becomes necessary to cause a woman to be searched, another woman shall make the search, with strict regard to decency [25]. So, the safeguards as to search of an accused woman by the Law Enforcing Agency (LEA) reveals that while searching any arrested woman, the rules of decency that is the assurance of honesty, politeness in behaviour that follows the accepted moral standards and shows respect for others should be strictly followed to its entirety. Another meaning of this is that while searching an accused woman utmost respect and honour have to be shown to the magnanimity of her privacy. Inviolability of her privacy as a female should be given due respect [26].

5. Women accused at fair trial

Right to a fair trial is one the fundamental human rights of every individual. Every individual should enjoy the facility to get justice regardless of the difference of sex, race, caste, colour, place of birth and so on and so forth. The Constitution of Bangladesh says that all are equal before law and are entitled to equal protection of law [2]. Every human being should be treated responding to all of the principles of natural justice. The women accused shall be provided with the right to consult with a lawyer of her own choice and no one shall be deprived of that for the sake of fair trial [5]. Each should be treated on the basis of the law in force at the time of the commission of offence [7]. None of the accused in police custody shall be prosecuted and punished for the same offence more than once [8]. Speedy and public trial by an independent or impartial court or tribunal established by law is a basic human right and none should be denied of that [9]. The accused under trial shall be guaranteed the right of not to be a witness against herself [10]. The accused if convicted shall not be subjected to torture or to cruel,

inhuman, or degrading treatment or punishment [11].

6. Rights of women prisoners

The life of the prisoners both male and female in Bangladesh is regulated by the provisions set out in the Jail Code. The male and female prisoners are generally classified into under-trial prisoners and convicted prisoners. Besides, there also exists provisions for the children and juvenile prisoners. Life of each class of the prisoners is regulated by some general and special type of provisions contained in the Jail Code. The Jail Code provides that the female prisoners shall be kept in a ward totally separated from the male prisoners and even the under-trial female prisoners, if possible shall be kept apart from the convicts. There shall be a separate hospital for the female prisoners. Everything shall be conducted by the Jailor in the female enclosure. In this regard, the provisions of the Jail Code run as follows:

Female prisoners shall be rigidly secluded from the male prisoners, and the under-trial females shall, if possible, be kept apart from the convicts. The female ward shall be so situated as not to be overlooked by any part of the male jail; and there shall be a separate hospital for sick female prisoners within or directly adjoining the female enclosure. They shall not be required to attend at the jail office. All enquiries and verification of their warrants shall be conducted by the Jailor in the female enclosure [27].

Whatever might be the provisions for women prisoners, for their safety, the condition is not up to satisfaction. The condition of women prisoners in Bangladesh is worsening day by day. The women are not safe either in society due to torture perpetrated by the miscreants of society or in police custody or in prisons because of numerous reasons. The female prisoners are being subjected to the violation of their human rights through rape, molestation, and indecent behaviour by the members of the LEA. Even the safeguards provided by the Bengal Jail Code, because of their being female are not being provided to them. They are subject to all kinds of torture either physical or mental. Yasmin rape and murder case, the Sheema Chowdhury rape and murder case, are outstanding examples out of many by the members of the LEA. Besides these, torture through beating and kicking has been one of the ordinary means of torture of the women accused by the LEA. Out of fear of extreme torture, the female detainees are venturing the risk of running away from police custody at the dead of night. The following incident may be taken into consideration in this regard.

A woman of village Mulbari under Ghatail Police Station in Tangail district fled from the Police Station (PS) in apprehension of torture at midnight of 27 January in 1999. The victim was identified as Khodeza Khatun (37), wife of Abdus Salam of the above-mentioned address. The husband of the victim and local people told the BRCT Fact-finding team on 11 July 1999 that police of Ghatail PS led by SI Mamun arrested his wife Khodeza Khatun at about 11.00 PM on 27 January 1999 on the charge of alleged kidnapping of a girl. Police broke the door of their house, entered into the room, kicked and beat Khodeza when she was alone in her house at that night. Police took her to the PS and could not put her in the female custody of the PS because both of the custodies of male and female were overcrowded. Police asked her to stay outside the custody. At the dead of night when Khodeza got the sentry slumbering, she managed to flee from the PS. BRCT conducted a Fact-finding mission on 10, 11 and 12 of July in 1999 following a report published in a Dhaka based daily news papers which alleged that Khodeza was killed by police and her dead body was concealed. The allegation of the newspaper did not prove true while the husband of the victim, Abdus Salam, asserted that his wife had come back home after a lapse of more than five months [28]. So what is manifested by the above-mentioned incident is that torture of every kind by the police is a trauma for the detainees both male and female alike.

Rape in police custody has been rampant in our country by the very policemen who are supposed to protect them from such torture. In 2000, members of the LEA raped seventeen women [29].

Again in jails, the women prisoners are treated like a male prisoner. The women prisoners are thrown into the police van after arrest where they have to go along with the male prisoners and no special measure for their carriage is taken to protect them from abuse. In Bangladesh, there is a scarcity of women Police Officer who are supposed to deal with the women prisoners. For this reason, within 24 hours of arrest, the women prisoners often get victimized by the middlemen who come in between the process to secure their release.

Torture has not been limited to physical infliction only. The female prisoners of Bangladesh have to undergo mental torture due to the ill treatment of the members of the jail authority. Mental harassment is a constant picture of the jail inmate of Bangladesh. Severe mental torture is inflicted upon them. The inhuman mental torture can be pictured out through the following incident.

"... one day a jail inmate, a young girl, received fried rice and chicken from her home through police. As a female warden saw her taking the food, she rushed to her and kicked the plate down. She hurled abuses at the girl in a very rude way. Unnerved by the abusive behaviour, the girl broke down in tears" [30].

This incident is not an isolated incident in the prisons of Bangladesh rather it has become a common picture for the jail inmates in Bangladesh. As human beings prisoners deserve to get minimum congenial atmosphere in the prisons. It means that every prisoner male or female should have proper and adequate space facility, medical care and other necessities. Proper supply of food and drinking water should be ensured.

In this connection the provisions of the Bengal Jail Code say that, "In the female division of every jail there shall be a block of cells sufficient in number for use as punishment cells and to afford separate accommodation for female under-trial prisoners. A female under-trial prisoner may, at the option of the Superintendent, if cell accommodation is available, have

the choice of occupying a cell in the female enclosure instead of being confined in the under-trial prisoners ward: provided the arrangements prescribed in Rule 954 regarding the guarding of cells in the female ward and the custody of the keys of these cells can be made" [31].

It is to be mentioned regretfully that the prisoners in Bangladesh suffer from lack of adequate space facility. They are not given enough space to satisfy the minimum requirement for health. Statistics collected from government and non-government organizations showed that the total capacity of the jails in the country is about 25,000; but now there are over 75,000 inmates in the prisons and accommodation available for female prisoners in countries (in 64 prisons) are 1051; but the number of inmates are 51700 [30]. The picture of the plight of women prisoners in Bangladesh is that they are in inhuman condition in the prisons. To ensure the human rights of the women prisoners, adequate space facility should be provided to them.

The provisions of the Jail Code in this context are very clear. According to the Jail Code, no male officer shall have any entrance to any female prisoners' enclosure and if unavoidably necessary, he may enter the same with company of any female warder. In this connection, the Jail Code provides that,

"No male officer of the jail shall on any pretext enter the female prisoner's enclosure alone or unless he has a duty to attend to there. If a male officer has to attend to any duty in the females' enclosure and there is a paid matron or female warder, he may enter the females' enclosure in her company, and shall be accompanied by her to whatever part of the female jail he may have to go; if the matron is a convict, he shall be accompanied by a Head Warder, and the two shall not separate whilst in the females' enclosure at night, the Head Warder on duty shall call the Jailer, and these two officers together, shall enter the enclosure. Warders acting as escorts to official visitors must remain outside the enclosure while prisoners are being inspected" [32].

In the police stations the existing number of female Police Officer is insufficient to treat women prisoners. Though the provisions of the Jail Code very specifically deal with the issue that the women prisoners be totally secluded from the male prisoners, implementation of the said provisions is far beyond reality.

Privacy has to be maintained strictly and the wilful violation of this strictness is the violation of the guarantee as specified and endorsed by different national and international instruments [26]. The provisions of the Jail Code assert that the privacy of the female prisoners has to be strictly maintained and in no way is it be whittled down. For the purpose of having foot prints, finger impressions of a female prisoner or to photograph or to measure her, she shall not be brought out of the enclosure and while doing so, the Police Officer and the Deputy Jailer or a Head Warder shall be in company of a matron or of the female convict warder or overseer in charge [33].

Right to association is one of the basic human rights as loneliness is the cause of instrumental pain and may lead to mental disorder. This basic human right has also been guaranteed to the female prisoners. If there is only one female prisoner in the ward, she shall be allowed to enjoy the visit of her female friend. The Jail Code in this regard provides,

When there is only one female prisoner in the female ward and there is no female warder, the Superintendent shall arrange to allow a female friend to visit the prisoner and live with her in the jail. If the female prisoner has no friend who will stay with her, the Superintendent shall entertain a female as an extra warder to keep her company in anticipation of the Inspector-General's (IG Prison) sanction [34].

Provisions have also been provided to protect the female prisoners from any sort of harassment by the male prisoners or the male staff of the jail. For this purpose it has been provided by the Jail Code that the keys of the female division shall be under the custody of the paid matron or female warder during the day and at night be under the custody of the Jailer and the keys shall remain in her custody until required next morning for the opening of the female wards [35].

Again, for the maintenance of privacy it has been provided by the Jail Code that the locks of the female cells and wards shall be different from those in use in other parts of the jail and the same key shall not be used to unlock the other parts of the jail. The keys shall be under an old and trustworthy officer if there be no paid matron or female warder [36].

Right to observe the religious institutions has been guaranteed as one of the fundamental rights in the Constitution of Bangladesh [37]. It has also been declared as one of the fundamental human rights in the Universal Declaration of Human Rights, 1948 (UDHR) [38]. The Constitution of Bangladesh provides freedom of religion. However, this right to observe the religious institutions has not been guaranteed by the Jail Code entirely. According to the provisions of the Jail Code, at the time of physical training the women prisoners are to remain bare head, hair flowing and with the upper part of the body covered with a kurta only [39].

This is the direct violation of the provisions of Islam regarding the dress of the Muslim women. According to the tenets of Islam, women of adult age or women who have attained puberty shall maintain the strict principle relating to dress. Here, they have to cover their heads with scarf. But the provisions of Jail Code relating to parade of women prisoners express that they have to remain with bare head while they are in parade. This is a violation of the constitutionally guaranteed fundamental right and also the human right declared in the UDHR. However, it does not mean that the women prisoners are all the time asked to remain with bare head. Inside the prison cell, at all other time excluding that of necessary for parading, they are supplied with necessary wearing apparels and are allowed to maintain and observe their religious institutions.

The right to have proper dress meeting the demand of the seasons of Bangladesh, the female prisoners, like all other prisoners, are supplied with necessary wearing apparels

under the provisions enumerating in Rule 1159 of the Jail Code. Rule 1159 dealt with the dress of all prisoners in division III sentenced to rigorous imprisonment while Rule 1165 deals with that of the convicted prisoners in division II sentenced to rigorous imprisonment [Appendix-A].

To enjoy the environment suitable for health and hygiene is another human right. This right has also been guaranteed by the Jail Code. As per the provisions of the Jail Code the hair of the female prisoners shall not be cut without the order of the Medical Officer where he considers this necessary on account of vermin or any disease. They are also supplied with comb and four necessary towels or napkins each.

7. Plight of female prisoners

Laws are made with the intention to reduce crime against women. Offences against women have taken modern aggravated forms, which were more or less absent in the past. Crimes against women have risen after independence. Women in Bangladesh are facing not only aggravated forms of conventional crimes but also new types of crimes. The jail authorities behave badly with convicts or under-trial prisoners. The prisoners suffer torture and various types of abuses. The prisoners are helpless. They can hardly protest. Interestingly, many male prisoners do the same with the female inmates. Male and female prisoners live in separate wards there. However, there is a door connecting male wards with those for the female prisoners. Veteran male prisoners often bribe guards of the female wards and coerce them to have sex with female inmates. Some female prisoners willingly have sexual contact with the men in the hope of getting some facilities. Jails in the country are overcrowded. While many spend time outside their rooms, the real problem occurs when they come back at night to sleep. A 2004 report says more than 74,000 prisoners including more than 2,000 female are kept in the country's 64 jails. At Dhaka Central Jail were lodged more than 11,000 inmates and over 300 of them women. In a paper recently presented at a seminar on Human Rights and Police Custody, sponsored by Human Rights Organisation "Odhikar", researchers Jesmul Hasan and Sajjad Hossain say, "Women and children are also not spared torture in jail. In many police stations of Dhaka City there is no separate hajat for women and children. In some cases, female detainees are kept in the offices of male police officers. Women are subjected to various types of abuse. In Dhaka, there are too few female police officers compared to the need. A police station has only two or three female officers - not enough. Some police stations have to do without female officers. So, male police officers deal with the female detainees, including arrests, interrogation and investigation.

Approach to AIDS Prevention: "There are separate wards/cells for female inmates in jails. Yet the female inmates are not safe there. They are victimised by male officials and supervisors. Such female inmates do not get justice because of abuses by the law enforcers. Women are arrested also under Dhaka Metropolitan Police Ordinance. A female detainee is supposed to be taken care of by a female police officer. But this rule is violated, as there is shortage of female police officers. As a result, female detainees are subjected to abuses and maltreatment. There are about 5.50 lakh cases pending in the courts. The process of trial is slow. There are at least 30 hajatis in a room, which is good for only two female hajatis. At night, the women just remain standing on their feet, as there is no room for sleeping. Any abuse of female prisoners in jail is to be condemned. It is not desirable even though it happens. He urged the media to create awareness against such maltreatment.

Conclusion

Violence agonist women is increasing and indicates generally that the amount of different crimes against women is so high that the time has come to introduce measures to eradicate them. Clearly, the need of the hour is to protect women from violence through the law. The whole issue of violence against women did not project the flaws in the criminal justice system or what else we require, to make the system effective giving proper justice to women, as justice delayed is justice denied. In prisons, most women come from poor families and with rural backgrounds. They mostly comprise of married, unmarried, divorced and estranged women involved in begging, odd jobs and prostitution. They are vulnerable to harassment and sexual abuse. When women and children of the country get various development opportunities for their development and empowerment, jails have been kept totally out of this development question. So, for the utmost and massive development of the country, the condition of the prisons should be improved. The prisoners should be treated as a member of whole human community. Otherwise a considerable portion of the total population will remain away from the light of human rights. It is a matter of hope that, the government in recent years has been paying more attention about the condition of jail inmates and thinking of making some reformation in this regard.

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Appendix

A list of dresses of the women prisoners under the provisions of the Rules 1159 and 1165 of the Bengal Jail Code is given below:

2 cotton chemises or kurtas

10 yards of cotton cloth 42 inches wide

2 gumchas

1 blanket coat

1 tatputtee for bedding

2 blankets

1 aluminium cup

1 aluminium plate

A square (2ft.×2ft.) of coarse gunny or matting

1 comb

Convicted prisoners in Division II sentenced to rigorous imprisonment shall be furnished with the following jail equipment:

a) For the hot weather

Accustomed to European mode of living		Accustomed to Indian mode of living	
Cotton skirts	2	Saries (pairs)	2
Cotton blouses	2	Cotton blouses	2
Cotton shirts	2	Chemise or shirts	2
Cotton drawers (pairs)	2	Drawers (pairs)	2
Cotton stockings (pairs)	2	Stockings (pairs)	2
Garters (pair)	1	Garters (pair)	1
Leather belt	1		
Cap	1		
Sola topi	1		

b) For the cold weather and rains

Accustomed to European mode of living		Accustomed to Indian mode of living	
Cotton skirt	1	Saries (pairs)	3
Cotton blouse	1	Cotton blouse	1
Woollen shirt	1	Woollen blouse	1
Woollen blouse	1	Flannel shirts or chemise	2
Flannel shirts	2	Cotton drawers (pairs)	2
Cotton drawers (pairs)	2	Stockings (pairs)	2
Cotton stockings (pairs)	2	Garters (pair)	1
Leather belt	1		
Garters (pair)	1		
Cap and Sola topi	2		

SOCIAL AND FAMILY FACTORS' EFFECT ON COMMITTING SUICIDE AMONG UNIVERSITY STUDENTS IN IRAN

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ABSTRACT

Abstract: In all societies people of different ages and races commit suicide, and it is considered as one of the top ten causes of death. There may be several reasons for suicide and their recognition has always been of great importance for the authorities who are supposed to control it.

In fact, committing suicide among young people, especially university students is a great social problem. It is also a matter of concern for mental health specialists. The aim of this study is to investigate the relationship between social and family factors and the idea of committing suicide among university students in Iran. 100 university students (50 male, 50 female) from University of Welfare and Rehabilitation sciences were randomly selected and participated in the study.

A 59 question demographic questionnaire about family situation, personal features and the idea of committing suicide was constructed and also a Beck questionnaire about depression and disappointment. The questionnaires were filled out in a private interview.

The samples were taken randomly. So it was found out that the singles were more inclined to commit suicide than the married ones. Divorce, failure in education, and family background also increase it. Among the other increasing factors, old age and female sex should be indicated.

Introduction

The word suicide is a French word that consists of two parts: sui which means self and cide which means killing (Dorckhime, 1999). .Pierre Mourn indicates that suicide is an intentional work either consciously or subconsciously in order to destroy one's self (Moron, 1997). Aristotle believes that suicide is different from sacrifice (Azkia,1985). Freud believes that sexual relationships with others is an important factor (Roiters, 1994). According to Eric Frum the disintegration of social and traditional beliefs is an effective factor (Khosravi, 1960). This theory is confirmed by Halbwachs (Shabani Fard Jahromi). Dorkhime claims that economical welfare decreases suicide (Halbwachs, 1930). Henry and Short confirm this idea with and emphasis on aggression (Henry, 1965). Gibbs and Martin emphasize the contrast of roles (Gibbs, 1965). Some people believe that social isolation is the only cause of suicide (Alec Ray). Sometimes suicide finds an elevated value in the society (Heidary, 1997). Of course in this respect, the amount of suicides in society and the social position of the people should be considered as determining factors (Jahan Pajuhesh). There are even a lot of glorious examples of suicide in literature such as the examples in Shakespeare's Works including the suicide of Juliet in Romeo and Juliet, that of Ophelia in Hamlet and that of Cleopatra in Antony and Cleopatra, and also suicide in the works written by Victor Hugo.

We read of the suicide of some famous people, such as Ernest Hemingway.

It is estimated that 6% to 14% of people have the idea of suicide, and 10% to 14% of those with the idea finally committed suicide. Statistics show that it is increasing, especially among young people, all over the world (Mohseni , 1987). Research shows that the number of women who have to stay in hospital because of suicide is more than that of men (Burke,1978,7-11) and concerning the seasonal effects, it increases a bit in spring and autumn and decreases in Winter.

Suicide is a great social pathology and also a matter of concern for those who deal with mental health. This problem is worse especially when it is about young people and university students who are the hope of our future. (Shopfropfer 2001).

People of all different ages, races, and social classes may commit suicide. (Jilianeh and Jeifer 1993). When the number of young people increases in a society, the number of suicides increases too. For example after the second world war with the large number of children the problem was that a lot of young people committed suicide (Caplan and Sadud 2000, Merk 2002).

It seems that the increase of suicide is the result of different factors including social environment, a change in the way we look at suicide, and availability of its tools (Hawthon and Kate 1997)

Among the other causes of suicide we can also refer to severe depression, misuse of drugs, and criminal behaviours (Caplan and Saduk 2000, and Merk 2002) and (Sarason,1994). In this respect there are two groups of causes: those that make the victim inclined and those that make his tendency evident. In the first group we can refer to family background, mental disorders, physical problems, and also a family tendency toward suicide, especially the parents. In the second group the crises of conformity, quarrel with parents, friends, and classmates, joblessness, divorce or separation, bereavement, and other stressful events of life(Caplan , Saduk and Gereb, 1996). Men are more successful in suicide than women. In this respect China is an exception. Iran is the 58th country in the world in which out of each 100,000 people only 6 attempt suicide (Table 1 shows the rate of suicide in some countries for the two sexes.)

It is reported that in 2001 there were 3,000 suicides in Iran (65% men, 35% women) which is about 1% of total deaths. In developed countries this rate changes to 1% to 2% of total deaths (Ganil, 2000). The number of suicidal attempts is more than successful suicides. For example in our country it is reported about 2 to 50 times more and this number changes in different provinces.

In different countries women usually attempt suicide 3 to 4 times more than men but men have successful suicides 3 times more than women (Caplan and Saduk, 2000).

In Iran men usually have successful suicides 2 times more than women. But in some provinces such as Ilam, Bushehr, Khuzestatn, Kohkiluye and Boyerahmad, Fars, and Kerman the number of women who commit suicide is more than men. It is reported that the highest rate of successful suicide is in Ilam (26 in 100,000) and in Kermanshah (23 in 100,000) and the lowest rate is in Tehran and Sistan and Baluchestan. The oldest statistics about suicide in Iran can be taken from an article written by Dr. Mirsepasi in 1970 and published in a magazine about psychology. Manoochehr Mohseni in 1884 announced 229 cases of suicide in Iran (1.3 in 100,000). In research made by Dr. Naghavi in 1994 it is reported that among the population of villagers, the rate of suicide is 5 in 100,000. Killing by fire is one of the most frequent ways of suicide among women in some provinces. According to the study of Kamalzadeh and his colleagues the rate of suicide in Tehran has gone up three times higher in comparison with the last decade. Based on research in Kerman it is observed that women attempting suicide is 1.5 times more than men, but successful suicide among men is 1.5 times more than women (Abbasizadeh, 1999). Studies about this matter are so expanded that it is not possible to deal with all different aspects and texts, so some of the outstanding points will be given as follows:

Although the rate of suicide normally increases among the middle–aged and elderly, (men after 45 and woman after 55), it is also increasing very rapidly among the young people especially boys between 15-24 years old (Tehran University, 1996). Depression and schizophrenia are the two main causes of suicide, and the background of its attempt shows how serious it might be (Caplan and Saduk,1999). The idea of suicide is more common among men, old people, and single or divorced people (Caplan and Saduk, 1999). Suicide is more common in urban and industrial areas in contrast with rural and non-industrial areas (Sheibani, 1973). The matter of suicide is rarely observed among children only in urban areas (Mohseni, 1967, 9-11). Higher social position and descending in social rank are two other causes of suicide (Caplan and Saduk, 1999). The other cause is social disorder that leads to personal disorder (Caran,1965). Suicide is very common among the medical doctors, especially female doctors, and its main causes are depression and addiction. Psychiatrists and then ophthalmologists and anesthetists in contrast with the other specialists have a greater tendency to commit suicide). The unemployed people have more tendency to do this work (Caplan and saduk,1999). And in general in high and low positions it is more popular than in average positions (Mohseni, 1987). The rate of suicide among whites is more then blacks (Caplan and Saduk, 1999). The acceptance of a person in the family is the basis of his physical and moral health and as a result decreases the danger of suicide (Mohagheghi, 1985). Marriage and having children decrease the rate of suicide enormously. It is observed that suicide among singles is twice that of married people and also among the divorced people is two times more than the singles (Caplan and Saduk, 1999). Disintegrated families increase the rate of suicide especially among girls (Ministry of the Interior, Iran, 1990). Jews and Protestants commit suicide more than Catholics and the Moslems less than the others (Mohseni, 1987). Porterfield believes that impiety is closely related to suicide (Caran, 1965). Regardless of ethical, religious, and philosophical matters, psychologists investigated the subject of suicide based on clinical cases and their attempt to understand the reality of suicide (Caplan and Saduk, 1999). There is a close relationship between physical health, sickness, and suicide (12% to 15% of suicides) (Mohseni, 1987). Women are more likely to commit suicide during their monthly period, especially on the first day (Hassanpur, Mashhad and Beca and colleaques, Spanish). But it rarely happens during pregnancy (Abbasizadeh, 1999). Having children is one of the factors that immunizes women more than men against suicide (31). Imitation is one of the increasing factors but for a limited time (Dorckhime, 1999).

Educational Basis

Collegians and students, according to the studies of Dr. Mohseni in 1973-76 in Tehran, observed that 17.5% of suicides were related to collegians and students. Failure in educational matters, especially in exams, increases the rate of suicide among university students (Alishiri, 1991). Revolution doesn't affect the rate of suicide, but war decreases it (Eslami Nasab, 1992). Social complications increase it (Eslami Nasab, 1992). When the rate of homicide increases in a country, the rate of suicide decreases consequently (Eslami Nasab, 1992). Availability of the device is very important in determining the type of suicide, for example in America gun is a very common

device. In winter, suffocation by gas, and in summer drowning in water are very common (Elahi, 1987). There are some other factors that increase the danger of suicide including social forces, sudden strong stresses, family problems and crises, death of a close relative, dismissal, the sense of failure, and also strong criticism by others (Ghaem Magham, 1985). Addiction to alcohol and drugs can be added to the list (Oryan, 1998). The common people suppose that poverty increases the risk of suicide, but the fact is exactly in contrast (Dorckhime, 1999). Of course in some countries such as India and Uzbekistan, it is observed that there is a close relationship between economic crisis and poverty with suicide (Sotudeh, 1994). Studies confirm the same point even in Iran (The Entekhab newspaper). Although the relationship between modernity and suicide has not been proved (Sotudeh ,1994), old studies and statistics express the point that the movement of society toward modernity increases the rate of suicide (Shabani Fard Jahromi). In Iran increasing immigration of villagers to cities is considered as another cause (Hesamian, 1984).

Finally we are going to have a look at different causes of suicide in Iran: in Lorestan, addiction and poverty; in Ilam, depression, poverty, and accusation of someone's chastity; in Gilangharb, sexual privation, limitations, and chastity affairs (Hesamian,1994); in Kermanshah, family problems, and psychological and mental problems (Province council of Kermanshah, 1997); in Mazandaran, family conflicts (Province council of Mazandaran, 1997); and in Kerman, family problems, and cultural poverty (Province council of Kerman, 1997).

Based on the studies about women, we can classify some of the causes of suicide among women in this way : husband's addiction, great difference between the ages, maladjustment, the existence of several wives for a man, lack of ability to make a decision, the interference of others in the family affairs, marriage in the early ages, and also considering divorce as a very undesirable work (Asgari ,1997). It is interesting to know that in Iran suicide is very popular among young married women while in western countries it is popular among the old unmarried men. (Asgari, 1997). There are several researches about different causes of suicide in Iran: according to research conducted in 1994, the causes are mentioned respectively as loneliness, age, irremediable disease, and failure in life and love (Gudarzi, 1994). In another research, the causes are pointed out as marital problems, undesirable condition of family life, psychological problems, failure in love, mental and personal disorders, poverty, joblessness, addiction, urban and industrial life and disintegration of social groups (Sotudeh, 1994). Based on another research the factors are mentioned respectively as marital problems, undesirable condition of family life, poverty, joblessness, addiction, psychological problems, personal and mental disorders, failure in love, and urban and industrial life (Mohseni, 1987).

Materials & Methods

The students of bachelor level at the university of Welfare and Rehabilitation in Tehran made up the society of statistical research. A sample group of 100 people (50 male, 50 female) was taken randomly from the same society.

The device of measurement:

a demographic questionnaire about information and two Beck questionnaires about hopelessness and depression, which were filled out respectively in a private and face–to–face situation. At the same time all the questions of the samples were answered.

The type of research:

This is a kind of retrospective research

The variables of research:

The independent variables are social and family factors and the dependant variable is suicide.

Statistical methods:

The software SPSS (9.5) is used in this research and then the method of one sample T test is used in which the relationship between the main variables and those that affect the number and rate of depression (which determines the rate of suicidal thought) is considered. The important point is the meaningful level that is about 0.0005 in the four cases of divorce, failure in education, marital status, and family background.

Results

50 men and 50 women took part in this research. Their ages were between 17 and 26 and the highest percent belonged to the age of 22 that was 23% of the whole. 15% of the samples were married, 58% stayed at the dormitories and 42% lived at home. 8% of the samples had experienced failure during their education. 32% of the samples had the idea of suicide and 6% attempted unsuccessful suicides. 28% had experienced the loss of a close relative in the last 6 months. In the family of two of them there was a background of suicide. Among the samples, there was a significant relationship between depression and divorce, failure in education, marital status, and family background. Of course the relationship between depression and family background was stronger than the others (Table 2). About the marks of hopelessness we can conclude that they took from 1 to 15. Most of them were between 2 and 8. The highest percents were for mark 3 by 17%, mark 2 by 16%, and mark 5 by 10%.

Discussion & Conclusion

For many years in Iran nobody paid attention to comprehensive research about suicide (Mohseni, 1987) and little research has been done about. Studies about educational matters in America and especially at some universities such as Yale, Kernel, and Harvard support the fact that in these cities the university students commit suicide more than the other groups of people. According to the research of Dr. Mohseni about suicide in Tehran (1973-74), it is observed that 17.5% of suicides were related to collegians and students, which supports the above-mentioned point. In this research, some factors such as failure in exams, lack of educational success, and family conditions are considered as the main causes of suicide (Alishiri, 1991). Based on research in Kermanshah (97-98) 3% of suicides were because of failure in education (Province council of Kermanshah, 1997). In our sample test 8 people had experienced

some failure and two of them had thought of suicide. Separation from family is another cause of the same thought, especially among girls. The reason is that they are dependent on their families for social, economical, and emotional matters (Ministry of the Interior, Iran, 1990). Research in Tabriz (1978-79) shows that the death of close relatives is the main cause of suicide (Karbasi) and another research made in 1994 supports the same point in the whole country (Gudarzi, 1994). In our research, 28 people had experienced the separation of a close relative in the last 6 months and 19 of them had thought of suicide and 3 of them committed suicide. Among the samples there were also 58 students who lived in the dormitories far from their families, from which 21 students had thought of suicide. Research shows that the rate of suicide among unmarried people is two times that of married people (Caplan and Saduk, 1999). In our research there were 85 singles and 15 married, and 30 of the singles (35%) and 2 of the married (13%) had thought of suicide. Also from the 6 students who committed suicide 5 were single. Of course in Iran marriage can be considered as a controlling factor especially for men (Asgari, 1997) and as a result, marriage decreases the amount of suicide (Mohagheghi, 1985). Research shows that suicide has increased in extended families in comparison with the nuclear families (Ministry of the Interior, Iran, 1990). In our research, there was a background of suicide only in the family of 2 samples, but neither of them had tendency to the same. Of course the problem is that our statistical society is limited. Most of the research confirms that family problems are the main causes in Iran (between 54% and 80%) (Mohseni, 1987, Province council of Kermanshah, 1997, Malek, 1994). The immunity of women against suicide is more than men (Malek, 1978). According to old research women committed suicide more than men in Iran (Asgari, 1997) but new research shows the opposite situation (Asgari, 2004). In our recent study 32 people out of 100 had thought of suicide (19 women and 13 men) and of course 6 of them committed suicide (4 women and 2 men). Increasing age is also an important factor (Tehran University, 1996). Suicide is increasing very fast among the men of 15 to 24 years of age (Tehran University, 1996). In our recent study we observed that there is a direct relationship between increasing age and suicidal thought. The results of this study proved all our hypotheses: there is a significant relationship between suicide (thought and attempt) and divorce, failure in education, marital status, and family background. Age and sex also have a significant relationship with suicide (thought and attempt).

Limitations

1. Lack of ability to apply this research to the whole society because the selected people may not represent the society.
2. Limitation and small size of the selected group that is considered as a pilot study.

Table 1. The rate of suicide in different countries for the two sexes (in 100,000 people)

Number	Country	Suicide rate women	Suicide rate men
1	Canada	5.4	21.5
2	Norway	6.9	17.7
3	The United States	4.5	19.8
4	Sweden	9.2	21.5
5	Australia	4.7	21
6	France	10.7	31.5
7	Finland	11.8	43.4
8	Germany	8.7	32.2
9	Denmark	11.2	42.2
10	Italy	4	12.7
11	Spain	3.7	12.7
12	Chile	1.4	10.2
13	Costa Rica	1.8	8
14	Poland	16.7	50.6
15	Venezuela	1.9	8.3
16	Mexico	1	5.4
17	Colombia	1.5	5.5
18	Cuba	14.9	25.6
19	Latvia	15.6	79.1
20	Thailand	2.4	5.6
21	Iran	3.4	3.8

Source: the report of human expansion 1999 (undp)

Table 2. The rate of correlation between depression and the four Hypotheses:

	Number	Correlation	Meaningful level	Average	Standard marks	Meaningful level 2- Tailed
1. Divorce and depression	100	- 0.10	0.31	1.46	0.78	0.000
2. Failure in education and depression	100	- 0.29	0.01	1.66	0.71	0.000
3. Marital status and depression	100	- 0.42	0.67	0.89	0.70	0.000
4. Family background and depression	100	- 0.003	0.97	1.7	0.64	0.000

In this table the variables are considered in pair and there is a significant relationship between depression and the four hypotheses.
The important point in this table is the positive correlation between depression and family.
1. The relationship is significant. 2. The relationship is significant.
3. The relationship is significant. 4. The relationship is significant.

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EFFECT OF PRAYER ON THE SPIRITUAL WELL-BEING IN IRANIAN PATIENTS WITH CANCER

ABSTRACT

Background: Spiritual well-being is a unique power that can harmonize several dimensions of a human's life and thus can be essential for coping with illness. Cancer causes crises in physical, psychological, and spiritual dimensions. Prayer can be a strong resource to resist these crises especially, in spiritual domain.

Objective: This correlational study was carried out to examine the impact of prayer on the spiritual well-being of 360 cancer patients undergoing chemotherapy who were referrals to Oncology ward of Cancer Centers of Iran and Tehran Medical Sciences Universities.

Methods: The spiritual well-being was assessed using the questionnaire developed by Paloutzian & Ellison (1982). Prayer was measured by Adapted Prayer Scale which was developed by Poloma, Endelton (1991) and Meraviglia (2002).

Results: The findings revealed that the total mean score for spiritual well-being of patients was estimated to be about (98.35±14.36) and the spiritual well-being of the patients stands at the medium level. Given to the study findings, it was observed that the patients' religious well-being is more than that of their existential dimension. The findings showed that the total mean score for prayer activity in these patients was 94.5±12.98, the previous experience of prayer in 57.2% of the patients was favorable. The attitude toward prayer in 52.2% of the patients was positive with the mean score 38.2±4.84. Significant relationships existed between spiritual well being with prayer practice, prayer experience and attitude toward prayer respectively, (r=0.61, p=0.00), (r=0.70, p=0.00) and (r=0.59, p=0.00). The findings demonstrated a direct and significant association between the Total score of prayer and the spiritual well-being of the patients(r=0.74, p=0.00).

Conclusion: The findings support healthcare providers encouraging patients diagnosed with cancer to utilize prayer as an effective resource for dealing with cancer.

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Key words: Spiritual well-being, Prayer, Cancer patients

Introduction

Cancer is described to be one the widespread, chronic non-communicable diseases(1). Various kinds of cancers are the causes of 9% of death throughout the world. After cardiovascular disease, cancer is considered to be the second leading cause of death in the developed and industrialized countries, and the 4th main cause in the developing countries,which are estimated to be about 19% and 6% of death in those societies respectively. Based on the statistics, 5 out of 50 million deaths are attributed to have a cancer cause (2). Treatment of cancer is often done by invasive modalities such as surgery, and chemotherapy which can lead to numerous side effects (3). Diagnosis of cancer influences spiritual needs due to the threatening nature of the illness(4). A diagnosis of cancer often provokes a crisis regarding the meaning of life, and shakes religious faith and burdens relationships with an uncertain future (5). Spiritual well-being is an important dimension of human well-being which is described as the affirmation of life in a relationship with a higher being or God, self, community and environment, which nurtures the development of wholeness (6-7). Spiritual well-being involves a religious vertical component, which refers to a sense of well-being in relation to God, and a socio-psychological, horizontal or existential component which refers to a sense of life purpose and life satisfaction (5). Patients who strengthen their spiritual well-being can cope effectively with their illness (8). Human religious and spiritual resources are estimated as important adaptation forces during the illness process (9). Various studies indicate that there are positive associations between physical health, spiritual well-being, meaning in life and prayer (10). Prayer is defined as an activity and expression of the human spirit reflecting connectedness with God (11). Prayer is described as being a spiritual and for some people a religious behavior. In the encyclopedia of religion, prayer is defined as any form of communication and divine intercourse with God, the supreme and divine being (12). Keegan, Guzzetta and Deusy (2000) define prayer as the deepest part of human nature that lifts up human beings from their isolation to a conscious communion with life(14). Deusy (1993) emphasizes that prayer does not pertain to a particular religion and is not confined by time and place (14). It becomes our souls' dialogues with God and is a spontaneous utterance that comes from the deepest nature of mankind, which is an innate and divine action by nature yet not a learned behavior. There is a strong eagerness for people to find a way of communication with the origin of the world (15). Prayer is associated with meaning in life and spiritual well-being. Prayer is regarded as an effective coping strategy for ill persons (10). There are numerous kinds of prayers, as to the number of the persons themselves who pray. It may be public or private. It is described as any form of divine communication with God as a supreme

being, including verbal talking (sometimes silence), singing, listening, waiting and groaning. Some people utilize other techniques, complementary to their prayers, such as tranquility, comforting, meditation, imagination, contemplation and observation (15). Prayer is characterized as a practice of worship, praising, confession and intercession to God, mediation, supplication and thanksgiving (16). It is a practice performed in many cultural and religious customs. Bringing the meaning of the prayer to mind and the ways wherein one can experience the presence of God and the communion with Him, provides the patients with a very strong and profound spiritual resource. When a person faces an illness and needs to be hospitalized, his imagination power paves the way for him/her to fly to another place that may be curative and comforting, and this may cause him/her to turn to practices of praying and religious commitment (15). Some people have found that their prayer, provides a resource to withstand the physical and psychologic crises brought on by the diagnosis and subsequent treatment of cancer (11). Prayer lets cancer patients have a heart to heart relationship with God. His/her personal prayers and the prayers of others are inspiring for them. These patients ask others to pray for them too (17).

It is concluded that there is a reciprocal association between the innate belief and spiritual well-being on one hand and hope and positive moods on the other which helps patients to cope more comfortably with their diseases (18). A number of studies reported that survivors of breast cancer emphasized the positive benefits of the spiritual resources of prayer and a relationship with God. In addition, long-term cancer survivors reported prayer and putting trust in God as important coping strategies during their cancer experiences (19).

Materials and Methods

In this study 2 data gathering tools were used:

- Paloutzian & Ellison's (1982) Spiritual well-being Scale (SWBS) was used to examine the spiritual well-being of cancer patients. The SWBS has been used extensively in research and has been tested with samples including college students, patients and caregivers(7). This questionnaire comprising 20 items was divided into 2 parts: the first part included 10 items referring to the respondent's relationship with God and thus assesses a vertical religious dimension of spirituality-religious well-being. The other 10 items assessed a horizontal or existential dimension of spiritual well-being. Each item is related on a six-point, Likert-scale from "strongly agree" to "strongly disagree", with higher scores indicating a greater degree of spiritual well-being. About half of the items are worded negatively to minimize response bias. The related score of the spiritual well-being was computed by summing the scores of these two subcategories which ranged from 20-120 finally; the spiritual well-being is divided into 3 levels of low (20-40), middle (41-99) and high (100-120).

Poloma and Pendleton's Prayer Scale (PS) was the most acceptable tool which was developed to assess types of prayer activities and prayer experiences. Poloma reported a Cronbach's alpha reliability coefficient of .85 for the instrument. Because the original instrument by Poloma and Pendleton was not sensitive enough to tap cancer illness, the scale was adapted by Meraviglia (2002) for use with people with cancer. The adapted and revised PS was used in this study. The scale had 32 items, which included 17 items on prayer activities, 9 items on prayer experiences, 6 items on attitudes toward prayer. The 3 subscales had 7 Likert-type response categories ranging from 7 = strongly agree to 1 = strongly disagree. Total scores were computed for each subscale by adding the item scores. High scores reflected a high degree of prayer activity, prayer experience, or positive attitude toward prayer. Subscale scores could range from 17-119 for prayer activities, 9-63 for prayer experiences, and 6-42 for attitudes toward prayer (20). The variables such as having chronic cardiovascular, hepatic, renal, respiratory and psychiatric diseases and those who abuse the psychedelic drugs are not recorded and considered in the study. The prayer and spiritual well-being were determined by measuring the quantity reliability. The reliability of the questionnaire was determined by using alpha coefficient recommended by Cronbach. The related results were r=0.79 and r=0.82 for prayer and spiritual well-being questionnaire respectively. These tools were used after translation and evaluated by content reviewers. Content reviewers critiqued the items for accuracy and clarity of the content of the instruments.

The first part of the questionnaire comprised questions related to the personal information and status of illness which, were acquired through interview or gathering information from their profiles. The questionnaires were completed in a self-monitoring way by patients. The patients signed the letter of satisfaction initially.

Participants: Participants were recruited from 2 Oncology Centers affiliated to Iran and Tehran medical Sciences University in Tehran City. Any cancer patient who was referred to Oncology Centers for chemotherapy, aged more than 20 years, able to read and write, and aware of their illness, were included in this study. Three hundred and sixty cancer patients who meet study criteria participated in this study. After participants agreed to participate in the study and signed an informed consent form, they completed questionnaires.

Statistical analysis of the data was conducted using SPSS 11.0. Descriptive statistics (e.g., frequency, mean, standard deviation) summarized the data from the study variables.

Results

Findings: A total of 360 patients (171 women (47.5%), 189 men (52.5%)) participated in the study, ranging in age from 20 to 78 years, with a mean age of 42.5. The majority of participants (46.1%) were under 40 years (n=166). Concerning participants' educational status, 89.4% were at high school level and 10.6% were university graduated.

Considering the patients marital status, the majority of subjects (73.1%) were married. Participants had a variety of cancers, which included oessophageal cancer (28.6%), blood and lymphatic cancer (24.7%), breast cancer (18.6%), bone cancer (10.8%), renal cancer (8.2%), lung cancer (3 %), nervous system cancer (1.6%)

and 3.6% had other types of cancers. About half of the sample (45.8%) reported that they were within the first 6 months of being diagnosed with cancer, and only 3% reported more than 36 months of being diagnosed with cancer. The average period for being diagnosed with the illness was 13.7 months

In terms of spiritual well-being findings revealed that the Mean score of total spiritual wellbeing is 98.35. In general the spiritual well-being of patients with cancer is at the medium level. Due to the fact that the religious and existential well-being are the two main aspects of each individual's spiritual wellbeing, results showed that the patients mean score for religious well-being is higher than existential well-being (54.6 Vs 43.6) which may be due to the fact that the Iranians are described to be religious and at the time of facing crisis put trust in God and resort to religious affairs as a means of coping with the new critical situation. (Table 1)

Among items of well-being scale, the majority of respondents acquired high scores in the items "I believe that God likes me and cares for me" and "My relationship with God helps me not to feel alone" with mean score 5.59 and item "I believe that there is a philosophy behind my existence" with mean score 5.37.

Total scores on the 3 subscales varied. Prayer activity scores ranged from 55 to 119, with a mean of 94.5. The scores of the prayer experience subscale ranged from 23 to 63, with a mean of 51.2, whereas attitudes toward prayer scores ranged from 6 to 42, with a mean of 38.2. Scale total scores ranged from 94 to 221, with a mean of 1841.05 (Table 2).

The findings indicated that the previous experience of prayer in 59.2% of patients was favorable and to be unfavorable in 40.8%. Range of Attitude toward prayer in cancer patients undergoing chemotherapy was estimated between 6-42 and the total mean score was about 38.2 ±4.84.

Table 3 was drawn for showing the effect of prayer on the spiritual well-being of cancer patients undergoing chemotherapy. There is a direct and significant relationship between the prayer and spiritual well-being. (p=0.00, r=0.74). Patients who resorted more to the prayer gained a favorable experience from their previous prayer and so have a positive attitude toward it and have higher spiritual well-being.

Discussion & Conclusion

Prayer activity scores ranged from 55 to 119, with a mean of 94.5. This range was reported by Meraviglia (2002) as about 58-108 with mean of 87 which showed to be less than the scores of the present study (20). This is due to the difference between cultural and religious beliefs among people. Sodestrom and Martinson reported that people with cancer described both praying personally and asking others to pray for them as spiritual coping strategies. (11)

The findings indicated that the previous experience of prayer in 59.2% of patients was favorable and to be unfavorable in 40.8%. The considered area for the attitudes of cancer patients undergoing chemotherapy toward prayer was estimated to be between 6-42 and the total mean score was about 38.2 ±4.84, which showed itself to be similar to the outcomes obtained from Meraviglia's (2002) survey. (20)

Findings showed a direct and significant relationship between prayer and spiritual well-being. In other words, patients who resorted more to prayer gained a favorable experience from their previous prayer and so have a positive attitude toward it and have a higher spiritual well-being. It seems that the most effective factor on the spiritual well-being of patients is regarded to be the previous experience of prayer. In fact the previous experience of prayer is described to have a more crucial effect on improving the spiritual well-beings of patients rather than the frequency of prayer and the attitude toward it. As Norum and his colleagues (2000) found in a survey conducted on 20 cancer patients in Norway, that believing in God and prayer play important roles in improving patients' spiritual well-being (8). Taleghani (1384) conducted a study which demonstrated that the important factor to be taken into consideration is the influence of spirituality on well-being for females who have been diagnosed with breast cancer and resort to prayer and seeking aids from the prophets, oblation, pilgrimage and other things. This issue is of a great importance in psychological comforting and decreasing the fear of disease (21). Maly & Feher (1999) in a study on breast cancer patients showed that the religious belief is perceived as a great spiritual support for patients and they believe that relying more on God will bring human beings, better psychological well-being This gives them enough inspiration to cope with the disease(21). Byrd (1988) found that prayer had a positive effect on the physical responses of critically ill patients, and Turner and Clancy (1986) found that prayer positively affected people experiencing chronic low back pain (20). Regarding the first hypothesis of the study which states that "the prayer activity has an important impact on the spiritual well-being of cancer patients undergoing chemotherapy", findings indicated that the spiritual well-being of patients significantly associated with prayer activity using linear regression test (p=0.00, r=0.61). It means that as the frequency of prayer increases, the more better the spiritual well-being of these patients. Therefore the hypothesis 1 is proved.

Considering hypothesis 2 which states that "the previous experience of prayer influences the spiritual well-being of cancer patients undergoing chemotherapy greatly and directly using linear regression test. (p=0.00, r=0.70). The outcome from linear regression (Table 2) shows that there is a direct and significant association between the patients' previous experience of prayer and spiritual well-being. In other words the more the score of the previous experience of prayer increases, the more would be the score for the spiritual well-being .It is concluded that the hypothesis is proved.

The third hypothesis states that "attitude toward prayer is described to have great impact on the spiritual well-being of cancer patients undergoing chemotherapy". The outcomes indicated that there is a direct and significant association between attitude to prayer and spiritual well-being of cancer patients using linear regression test (p=0.00, r=0.59) which revealed that the more the related mean score of attitude toward prayer

increases, the more improvement we have in spiritual well-being of cancer patients, so this hypothesis is proved too. Religion is an important resource and is regarded as an effective factor in improving spiritual well-being when people resort to it. At the time of confronting problems, prayer proves to be a psychological comforter for cancer patients (21).

By the way of using Kruscalvalis test there is found to be meaningful association between the frequency of prayer and cancer patients' ages. (p=0.00) which showed that the higher the age of cancer patients undergoing chemotherapy increase, the higher the mean score for frequency of prayer, in such a way that the mean score in the age-group of more than 70 years is more than that of other age-groups. Algier et al (2005) proved that cancer patients of the age-group of 40 to 59 years of use more complementary and alternative therapies compared with other age-groups (22).

Based on T-test, there is a significant association between the frequency of prayer and sex of the cancer patients undergoing chemotherapy. (p=0.01). It is shown that the mean score for frequency of prayer in females suffering from cancer and undergoing chemotherapy is more than that of males, which is consistent with the following research outcome:

Mulasiotis et al (2005) indicated that females suffering from hematological malignancy are more reluctant to use complementary and alternative therapies especially prayer (23).

Tas et al(2001) and Guzom(201) in their studies on cancer outpatients found out that the females suffering from cancer use more complementary and alternative therapies like prayer. Algir and his colleagues (2005) also reported similar findings(22).

Honda and Jacobson (2005) in their study demonstrated females use prayer more than males (24).

Based on the Kruscavalis test, the present study shows that there is a significant association between the frequency of prayer and cancer patients' educational status (p=0.00), and the mean score for the frequency of prayer in patients with lower level of education was reported to be higher. This mean score for patients at primary level was observed to be thehighest. Meraviglia (2002) in his survey on cancer patients proved that the mentioned mean score for patients with lower level of education is also more. The study outcomes are shown to be contradictory (20). Ceylan et al (1998) and Gazoom (2001) in their study on outpatients suffering from cancer and with lower level of education found out that the patients with lower level of education utilize more complementary and alternative therapies like prayer compared with people with higher level of education. This is while Samoor and his colleagues (1999) in their studies on outpatients observed that the patients with higher level of education use more complementary and alternative therapies (22). Likewise, Mulasiotis et al (2005) showed that patients with malignant hematonosis and higher level of education resort more to prayer (23).

Honda and Jacobson (2005) also perceived that those who are university graduated resort most to prayer (24). A significant association between the previous experience of prayer and cancer patients ages undergoing chemotherapy has been observed in Kruskalvalis test(p=0.00). The older the cancer patients undergoing chemotherapy are, the more the related mean score for the previous experience of prayer would increase, in such a way that the mean score in the age-group of more than 70 years is reported to be more than the related score in other age-groups. Various studies demonstrated that 90% of Americans in their old age, resort to religion and spirituality in order to cope with stress. They believe that religion brings peace, comfort and tranquility. Stressful elements during the old age period may result in losing one's health, friends, and family members. If these people live in societies where in the values of people are evaluated according to the productivity and young appearance of people, they will become more disturbed and anxious; therefore, they seeks aids from religion to cope with stressful elements (25).

The mean score for the previous experience of prayer for cancer patients undergoing chemotherapy in females is reported to be more than males although the T-test showed no significant difference. (p=0.09). Based on Kruscalvalis test, there is found to be a significant association between the levels of education and the previous experience of prayer in cancer patients undergoing chemotherapy (p=0.00). The related mean score for the previous experience of prayer in cancer patients undergoing chemotherapy at primary level is reported to be more, in contrast with those with other levels of education. Meravglia (2002) also recommended that the previous experience of prayer in cancer patients has an opposite relationship with level of education (20). According to the study conducted by the researchers of Harvard University, spirituality not only roots in a person's own beliefs but also in their own experiences. Believing in something with out experiencing it will cause persons to lose the physical and psychological benefits of spirituality. Some people may be exposed by spiritual experiences but may not know it.. Spirituality has indexes such as prayer, which needs to be experienced (25). Kruskalvalis test indicates that there is a significant association between cancer patients' attitudes toward prayer and their related ages (p=0.00) and the mean score for attitude toward prayer will increase along with the increase of their ages, in such a way that the related mean score in the age-group of more than 70 years is found to be more than other age-groups. Findings indicated that the mean score for attitude toward prayer in females is a little higher than that of males, but the related outcomes of T-test showed no significant difference in the mean score for attitude toward prayer between males and females(p=0.28).

A significant relationship is observed between the attitude toward prayer and cancer patients levels of education(p-0.00). Its related mean score for those at primary level is described to be more than other levels. Meraviglia (2002) demonstrated that the attitude toward prayer in cancer patients has an opposite relationship with their levels of education. Frequency of prayer in cancer patients undergoing chemotherapy ranges from 55-119 and the mean score for frequency of prayer in the patients is 94.5±12.98 while in the Mervaglia's study (2002) performed in Texas, the score limit for

frequency of prayer in cancer patients was 55-108 with the mean score of 87, which reported to be fewer in contrast with the present study score. This may be due to the cultural and religious beliefs discrepancies. The score limit for the frequency of prayer in cancer patients undergoing chemotherapy is estimated to be 23-63 with the mean score of 51.2±7.49. Meraviglia (2002) reported the score limit for the previous experience of prayer in cancer patients to be 18-52 with the mean score of 38.8, which is shown to be less than its counterpart outcome in the present study. Also the score limit for attitude toward prayer in cancer patients undergoing chemotherapy ranges from 6-42 with the mean score of 38.2±4.84 which is similar to the outcomes obtained from Meraviglia's research (2002). Given the findings of the study it is considered as essential for patients suffering from threatening illnesses such as cancer to pay more and greater attention to the important role that spiritual well-being and alternatives such as prayer play in maintaining a healthy life and finding the coping techniques (20).

Table1: Score, range, means of existential, religious and spiritual well-being

Spiritual wellbeing	**No**	**%**
low	**0**	**0**
middle	**164**	**45.6**
high	**196**	**54.4**
Total	**360**	**100**
Mean of Religious well-being	**54.6**	
Mean of existential well-being	**43.6**	
Total Mean	**98.35**	
Range of total spiritual well-being	(51-120)	
Range of religious well-being	(31-60)	
Range existential well-being	(15-60)	

Table 2: Total scores on Adapted prayer Scale (n=360)

Prayer aspects	**Range**	**Potential score range**	**Mean**
Prayer activity subscale	119-55	119-17	94.5±12.98
Prayer experience subscale	63-23	63-9	51.2±7.49
Attitudes toward prayer subscale	42-6	42-6	38.2± 4.84
Total score	221-94	224-32	184.05± 21.67

Table 3: the effect of prayer on the spiritual well-being of patients with cancer (using multiple regression test)

Prayer aspects	p	t	Beta
Fixed No	26.0	10.1	83.4
Prayer activity subscale	0	75.5	27.0
Prayer experience subscale	0	96.8	80.0
Attitudes toward prayer subscale	0	34.5	67.0

Prayer experience R^2 =0.49

Prayer activity and prayer experience R^2 =0.55

Prayer activity, prayer experience and attitude R^2 **=0.58**

Diagram 1: Relationship between prayer activity and spiritual well-being - **Prayer activity**

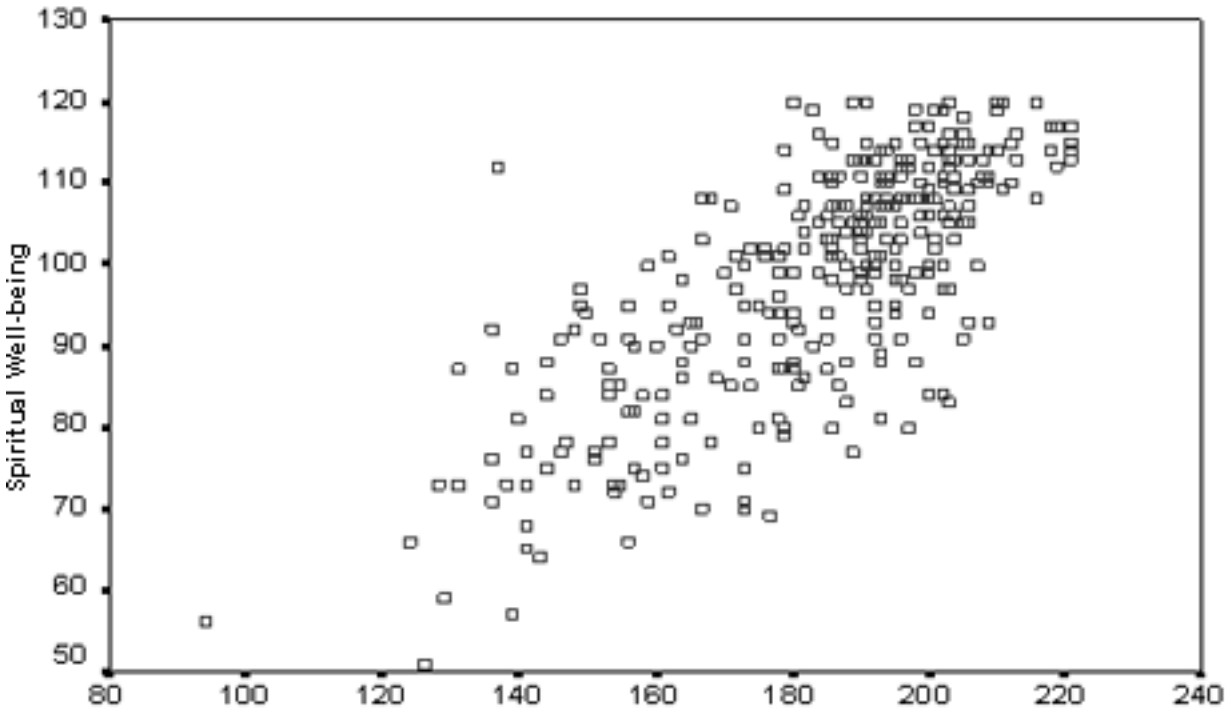


Diagram 2: Relationship between prayer experience and spiritual well-being - Previous experience of prayer

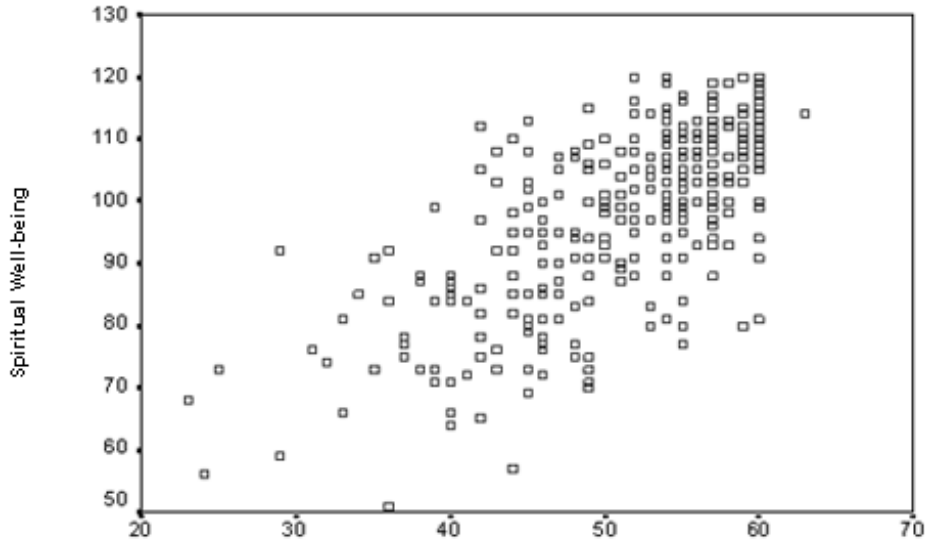
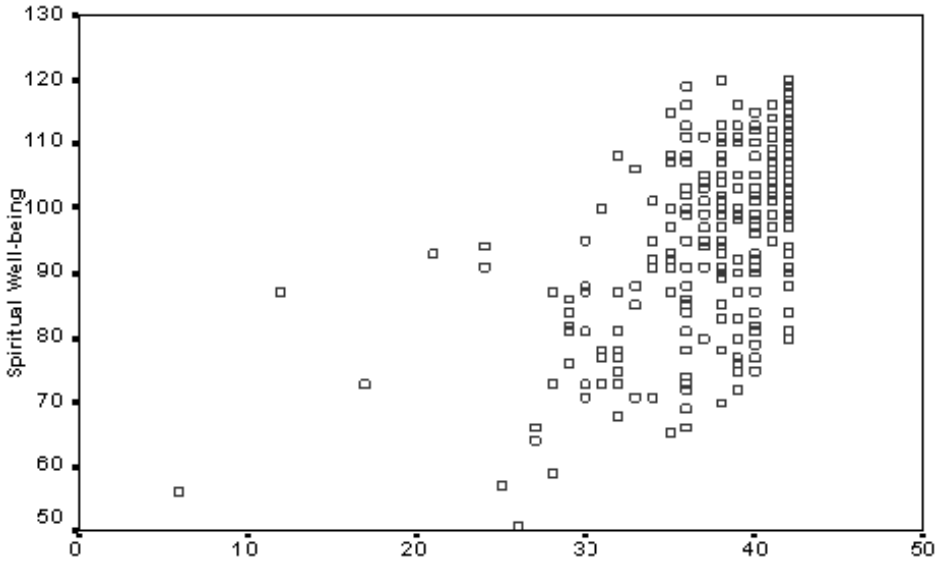


Diagram 3: Relationship between attitude toward prayer with spiritual well-being - Attitude toward prayer



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