

Original Article

The Effect of Ramadan Fasting on Surgical Emergency Attendants

Atef Mohammed Husseiny, Metwally Afifi El-Sayed, Abd-Al Wahab Eshra, Mohammed Al-Meshaan
Department of Surgery, Al-Sabah Hospital, Kuwait

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ABSTRACT

Objectives: To study the effect of Muslim fasting on health in general, during Ramadan, Shabaan and Shawaal

Design: Retrospective cohort study

Setting: Surgical Department, Al-Sabah Hospital, Kuwait

Subjects: All patients (n = 61,832) who attended the Surgical Department during three consecutive lunar months each year (the fasting month - Ramadan, the month before - Shabaan and the month after - Shawaal), for the last five consecutive years were included. 85% were Muslims (Mixed Group). The study was further refined to analyze Kuwaiti patients who were all Muslims (Muslim Group).

Main Outcome Measure: Attendance at the Surgical Department

Results: Attendance in the Mixed Group was less during

Ramadan and Shawaal in comparison to the attendance during Shabaan (p = 0.06). In the Mixed Group, attendance during Shawaal was much less than Shabaan (p = 0.0007). Patients in the Muslim Group attending the Surgical Department (2000 – 2004), showed a decrease in attendance during Ramadan and Shawaal in comparison to Shabaan (p = 0.015). The total number of cases admitted to the hospital through the Surgical Department was less in Ramadan and Shawaal in comparison to Shabaan (p = 0.6).

Conclusion: There is a decrease in the number of Muslim patients attending Surgical department during the fasting month of Ramadan and Shawaal in comparison to Shaaban. This may indicate that Muslim fasting may have a positive effect on decreasing the number of patients attending the Surgical Department.

KEY WORDS: emergency, fasting, Muslims, Ramadan, surgery

INTRODUCTION

Ramadan is the ninth lunar month in which Muslims believe that the Holy Book "The Qur'an" was sent to Prophet Mohammed (PBUH). More than 600 million adult Muslims worldwide practice fasting during this month, as stated in The Qur'an, from dawn to sunset. Children and sick individuals are exempted from this fasting. Muslims fast to express their gratitude to God and they believe that fasting improves health. There are many centers worldwide who advise fasting, not on religious basis, but for improving health^[1].

In this study we tried to demonstrate the possible beneficial effect of fasting on health by studying the attendance of patients at the Surgical department for five consecutive years.

PATIENTS AND METHODS

In a retrospective analysis, we studied patients who were treated in the Surgical Department in Al-Sabah Hospital, Kuwait during three consecutive lunar months, the fasting month (Ramadan),

the month before (Shabaan) and the month after (Shawaal), for five consecutive years (2000-2004). Our study included 61,832 patients of whom a majority (85%) was Muslim (Mixed Group). Then the study was refined to analyze Kuwaiti patients who are all Muslims (Muslims Group).

The number of patient visits to the Surgical Department in Ramadan, the month before and the month after (30 days each) were analyzed. Our aim was to see if there is any difference in the number of patient attendance during these three months and to demonstrate the positive or negative impact of fasting on health in general.

Statistical methodology:

Data were collected and coded then entered into an IBM compatible computer using the SPSS version 12 for Windows. Entered data were checked for accuracy and normality using Kolmogorov-Smirnov and Shapiro-Wilk tests and proved to be normally distributed. Qualitative variables were expressed as number and percentage while

Address correspondence to:

Dr. Atef M. Husseiny, Department of Surgery, Al-Sabah Hospital, Kuwait. Tel: (M): 6650998, E-mail: atef411@yahoo.com

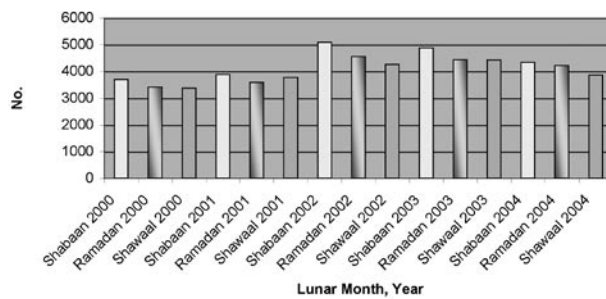


Fig. 1: Surgical Unit cases (Mixed group) attendance during Shabaan, Ramadan and Shawaal (2000 - 2004, p value = 0.06)

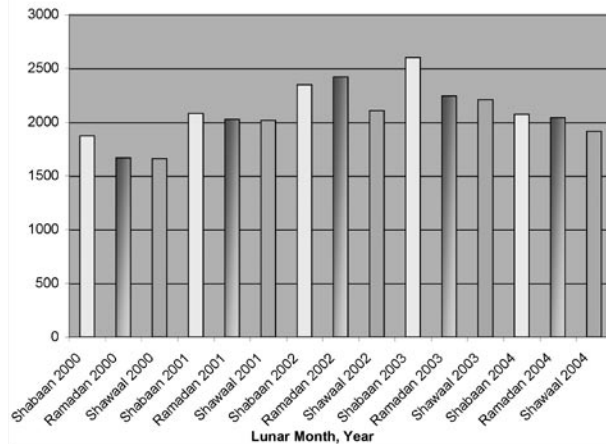


Fig. 3: Surgical Unit cases (Muslims Group) attending during Shabaan, Ramadan and Shawaal (2000-2004, p value = 0.015)

quantitative variables were expressed as mean and standard deviation. The arithmetic mean was used as a measure of central tendency, while the standard deviation was used as a measure of dispersion. The one way ANOVA (F-test) was used as a parametric test of significance for comparison between more than two sample means, using either Scheffe's or Tamhane's post hoc tests for paired comparison according to the results of homogeneity testing. A 5% level was chosen as a level of significance in all statistical significance tests used.

RESULTS

The number of patients in the Mixed Group (85% were Muslims) attending the Surgical Department during Ramadan (20,226 patients) and Shawaal (19,702 patients) was less during each of these two months in comparison to number of those attending during Shabaan (21,904 patients, $p = 0.06$, Fig.1).

By comparing the number of cases (Mixed Group) attending Surgical department during Shawaal and Shabaan, we found a statistically significant decrease in the attendance during Shawaal ($p = 0.0007$, Fig. 2).

Analysis of the number of patients in the Muslims Group attending the Surgical Department during Shabaan, Ramadan and Shawaal (2000

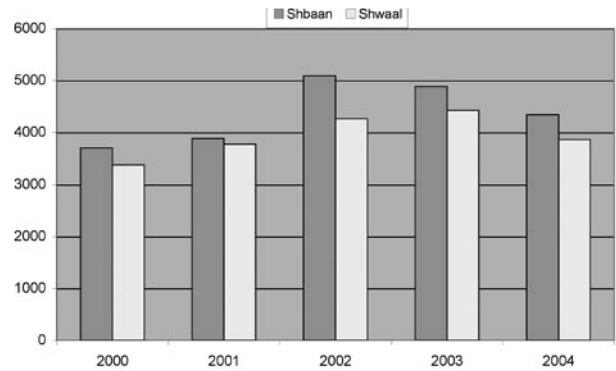


Fig. 2: Surgical Unit cases (Mixed Group) attending during Shabaan and Shawaal (2000-2004, p value = 0.0007)

– 2004), showed a statistically significant decrease in the number of cases attending during Ramadan (10,396 patients) and Shawaal (9,902 patients) in comparison to those attending during Shabaan (10,968 patients, $p = 0.015$, Fig. 3).

DISCUSSION

The aim of this study was to evaluate the relationship between Ramadan fasting and health in general by studying the number of the patients attending the Surgical Department in our hospital for five consecutive years during Ramadan, Shabaan and Shawaal months.

Many research workers studied the effect of fasting practiced by Muslims during Ramadan on human health in normal individuals and in patients suffering from diseases like diabetes mellitus, hypertension, heart diseases, stroke incidence, peptic ulcer disease as well as pregnancy with biochemical and hematological changes.

Two studies were found in the literature which showed some negative effect of Ramadan fasting on human beings. The first was by Langford *et al* who found some increase in the number of attendants to surgical casualty in Ramadan (limited study)^[2]. The second was by Donderici *et al.* who found that fasting in Ramadan increases peptic ulcer complications in patients suffering from peptic ulcers^[3].

The majority of the studies found no negative effect of Ramadan fasting on healthy individuals or on patients, although some found significant metabolic changes with different diseases, *e.g.*, diabetes or hypertension^[4-16].

In our study, we compared the fasting month (Ramadan) with Shabaan and Shawaal months for five consecutive years trying to eliminate the factors that could affect the number of patients attending the Surgical Department such as the environment, temperature and vacations.

Our study involved 61,832 patients who attended the Surgical Department during this period. We found a statistically significant decrease in the number of cases attending Surgical Department

during the fasting month (Ramadan) and Shawaal month compared to the Shabaan month, especially in the Muslims Group.

We also found a significant decrease in the number of patients attending during the Shawaal month in comparison to the Shabaan month in both groups (Mixed and Muslim). This may indicate that there is a possible effect of fasting that may extend to months after Ramadan.

CONCLUSION

There is a decrease in the number of Muslim patients attending the Surgical Department during the fasting month of Ramadan and Shawaal in comparison to the Shaaban month. This indicates that fasting may have a positive effect on decreasing the number of patients coming to the Surgical Department.

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