



Research Article

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Determining the degree of compliance of Antibiotic prophylaxis before surgery with national guidelines in the gynecology ward of Shahid Sadoughi Hospital in Yazd

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Abstract

Proper use of antibiotic prophylaxis reduces the rate of postoperative infection, but the administration of inappropriate antibiotics increases the spread of antibiotic-resistant bacterial species as well as prolongs the hospital stay, imposes unnecessary costs, and drug reactions. The purpose of the present study was the investigation of the rate of compliance of antibiotic prophylaxis before surgery with national guidelines in the gynecology ward of Shahid Sadoughi Hospital in Yazd. The present study was a cross-sectional research that was performed in the gynecology ward of Shahid Sadoughi Hospital in Yazd, Iran. The records of 200 patients were reviewed randomly. Patients' information was including personal information, type of surgery, type of prophylactic antibiotic, dose of antibiotic and time of administration. Finally, the compliance of antibiotic prophylaxis with national guidelines was compared and data analysis was performed using SPSS 22 software. The age mean of patients was 36.6 ± 10.5 years. Out of 200 operations, 85 were hysterectomy, 65 cesarean, 30 curettage & abortion and 20 other gynecological operations. The present study showed that the highest compliance was related to the time of antibiotic administration.

Keywords: Antibiotic Prophylaxis, Compliance, Gynecology, National Guidelines.

INTRODUCTION

Nosocomial infections are currently one of the main problems of health centers, which entail high costs [1,2]. Infection at the surgical site is the second common nosocomial infection in hospitals [3,4].

Patients with surgical wound infection are more likely to be readmitted to the intensive care unit than other patients [5,6]. Given the importance of this issue, evaluating the pattern of drug use and conformity of drug administration according to the currently available instructions is one of the ways by which the exact performance of the instructions can be measured [7-9].

Thus, the aim of the present study was to assay the rate of compliance of antibiotic prophylaxis before surgery with national guidelines in the gynecology ward of Shahid Sadoughi Hospital in Yazd.

MATERIALS AND METHODS

The present cross-sectional and descriptive study was performed in 2019 in the gynecology ward of Shahid Sadoughi Hospital in Yazd, Iran during a two-month period. This study was approved by the ethics committee of Shahid Sadoughi University of Medical Sciences of Yazd, Iran.

The study participants' number included 200 patients who were randomly selected.

Inclusion criteria include performing surgery on patients and exclusion criteria including no surgery for patients, normal delivery, no use of antibiotics before surgery for any reason, receiving antibiotics before surgery for any reason other than prevention.

The method of data collection was referring to patients' files and their cardex of medicines and asking the doctor or midwife and entering it in the data collection form.

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The data collection form was a specific form that included demographic characteristics (age), type of surgery, antibiotic prophylaxis (type, dose and time) and duration of continued antibiotic administration.

Then, the compliance of antibiotic prophylaxis with national guidelines was compared in terms of type and dose of antibiotics, type of surgery, time of first prophylactic treatment and duration of treatment. Final data analysis was done using SPSS 22 software.

RESULTS

The mean age of patients was 36.6 ± 10.58 years. The minimum age was 17 years and the maximum was 61 years.

The number of patients under 40 years was 124 patients (62%) and the number of patients above 40 years was 76 patients (38%).

The most common operation was hysterectomy.

The conformity of the type of antibiotic with the national guidelines in the present study was as follows: out of 200 operations, 117 cases (58.5%) were according to guidelines and 83 operations (41.5%) were non-compliant (Table 1).

Table 1: The conformity of the type of antibiotic with the national guidelines

Operation	Conformity Rate	Degree Of Non-Conformity	Total
Hysterectomy	49(57.6%)	36(42.4%)	85
Cesarean	44(67.6%)	21(32.3%)	65
Curettage and abortion	13(43.3%)	17(56.7%)	30
Other operations	11(55%)	9(45%)	20
Total	117(58.5%)	83(41.5%)	200(100%)

The highest rate of conformity of antibiotic dose (Table 2) and time of antibiotic administration (Table 3) was related to cesarean and the lowest rate was related to curettage and abortion.

Table 2: The conformity of antibiotic dose with the national guidelines

Operation	Conformity Rate	Degree Of Non-Conformity	Total
Hysterectomy	43(50.6%)	9(10.6%)	65
Cesarean	42(64.6%)	4(6.2%)	65
Curettage and abortion	10(33.3%)	13(43.3%)	30
Other operations	8(40%)	3(15%)	20
Total	103(51.5%)	29(14.5%)	200(100%)

Table 3: The conformity of antibiotic administration time with the national guidelines

Operation	Conformity Rate	Degree Of Non-Conformity	Total
Hysterectomy	76(89.4%)	85	9(10.6%)
Cesarean	61(93.8%)	65	4(6.2%)
Curettage and abortion	17(56.7%)	30	13(43.3%)
Other operations	17(85.5%)	20	3(15%)
Total	171(85.5%)	200(100%)	29(14.5%)

In general, the rate of conformity of type, dose, time of administration of the first dose before surgery and duration of continuous treatment with the guidelines were 58%, 51%, 85% and 37.5%, respectively. Therefore, the highest compliance was related to the time of administration and the lowest was related to the continuation of the administration.

DISCUSSION

In the present study, the highest level of conformity of antibiotic dose and time of antibiotic administration with the national guidelines was related to cesarean and the lowest rate was related to curettage and abortion.

In one study, the adaptation of the type of antibiotic prophylaxis was 78.2% [10]. In another study, the adaptation rate of antibiotic prophylaxis was 71% [11].

The compliance of the antibiotic dose with the guidelines in the present study was 51.5%. In Bedouch's study, this conformity was 98% [11].

In the present study, a high percentage of compliance was also observed regarding the time of antibiotic administration (85.5%). In a study on patients in the surgical ward, it was found that in 81.9%, the start of antibiotics was at the appropriate time [12].

CONCLUSION

The best compliances with the guidelines in this study were related to the time of administration, type of antibiotic, dose of antibiotic and duration of continuous treatment, respectively.

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Conflict of Interest

None declared.

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