

NURSING KNOWLEDGE, AND PRACTICE ABOUT NUTRITION AND DRUG INTERACTION IN IBN-SINA HOSPITAL- COAST HADHRAMOUT GOVERNATE- YEMEN

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ABSTRACT

Background: Medicines treat and cure many health problems. However, they must be taken properly to ensure that they are safe and effective. Many medicines have powerful ingredients that interact with the human body in different ways. Diet and lifestyle can sometimes have a significant impact on drugs. A drug interaction is a situation in which a substance affects the activity of a drug, i.e. the effects are increased or decreased, or they produce a new effect that neither produces on its own. Typically, interactions between drugs come to mind (drug-drug interaction). However, interactions may also exist

between drugs and foods, as well as drugs and herbs. **Objective:** To determine Nursing Knowledge, and practice about nutrition and drug interaction in Ibn-Sina Hospital – Coast Hadhramout Governate –Yemen. **Subject and Methods:** The study design was a descriptive cross-sectional survey, using a questionnaire, distributed to 158 in Ibn-Sina Nurses, during (August – September) 2020. **Results:** The statistical analysis for data obtained in this study showed:- Nutrition doctors or specialists and the nutrition department were not available in the biggest hospital (Ibn-Sina Hospital) in our governed. A responsible person's nutritional awareness of food –drugs or disease interaction with the patient was absent So the highest percentage 61 %that the dietitian was the doctor. From our results, we found that the importance of nursing awareness and knowledge for overlapping nutrition-drug interaction to make good decisions and resolve the side effects of medication was the highest percentage 96 %,94% of the nursing support that nutrition-drug interaction can affect the patient's life, so 64% of them interested in the follow-up date information on nutrition and drug interactions. The main source of information that led to the overlap of nutrition and drug interaction for the Ibn-Sins nursing hospital was nutrition rapporteur 68%, on the other hand, nutrition

courses had the lowest percentage 41%. More than the quarter of our study sample 29% was the lowest percentage of all certain groups that they did not know any information about nutrition-drug interaction and 58% was the highest percentage about serious warfarin–food interaction. The main causes of low nutritional nursing awareness was 77% no conference, courses and seminars and 66 % was related to decline in the hospital services. Low Nursing practice towards nutrition and drug interaction monitoring interaction in Ibn-Sina Hospital-Coast Hadhramout Governate–Yemen. **Conclusion:** The present study was successful in evaluating the knowledge, awareness, and attitude of food-drug interaction among nurses It indicates that the availability of the nutrition department of Ibn-Sina Hospital the biggest hospital in Coast Hadhramout governate was not found, and lack of nursing knowledge, and weak practice about nutrition and drug interaction in Ibn-Sina Hospital – Coast Hadhramout Governate –Yemen.

KEYWORDS: Knowledge, attitudes food and drug interactions (FDI), Ibn-Sina Nurses Hospital, Muna Alkatheri.

INTRODUCTION

Diet and lifestyle can sometimes have a significant impact on drugs. Food and drug interactions (FDI) occur when specific nutrients in foods interact with drugs when ingested concomitantly. FDI can result in changes in the bioavailability, pharmacokinetics, pharmacodynamics and therapeutic efficacy of the medication.^[1,2]

Diet and lifestyle can sometimes have a significant impact on drugs. A drug interaction is a situation in which a substance affects the activity of a drug, i.e. the effects are increased or decreased, or they produce a new effect that neither produces on its own.^[1]

Typically, interactions between drugs come to mind (drug-drug interaction). However, interactions may also exist between drugs and foods (drug-food interactions), as well as drugs and herbs (drug-herb interactions).^[3,4]

These may occur out of accidental misuse or due to a lack of knowledge about the active ingredients involved in the relevant substances. Interactions between food and drugs may inadvertently reduce or increase the drug effect. Some commonly used herbs, fruits as well as alcohol may cause failure of the therapy up a point of to serious alterations of the patient's

health. The majority of clinically relevant food-drug interactions are caused by food-induced changes in the bioavailability of the drug.^[2,3]

Nursing plays a key role in nutrition education because nutrition is a part of patient outcomes. The healing of the body can take place only when the nutrients that provide the building blocks for repair are present. Also, they play a vital role in the overall healthcare system. Prehospital nursing has the opportunity to provide nutrition education that can help preserve the health of all populations particularly older adults. Much has been written about eating dysfunction in the geriatric population.^[1]

In contrast to the easy access to information on drug-drug interactions, the information about food-drug interaction is not always available conveniently. It is a difficult and complex problem to accurately determine the effects of food and nutrients on a particular drug. This article aims to help nurses to become more knowledgeable about drug and food interactions. This study is carried out to determine nursing Knowledge, and practice about nutrition and drug interaction in Ibn-Sina Hospital- Coast Hadhramout Governate, Yemen.

MATERIAL AND METHODS

Research design: This was a descriptive cross-sectional study that aimed to determine nursing knowledge and practice about nutrition and drug interaction in Ibn-Sina Hospital- Coast Hadhramout Governate district during (August – September) 2020. The study was conducted as a survey using questionnaire methods to explore the nursing knowledge and practice about nutrition and drug interaction in Ibn-Sina Hospital- Coast Hadhramout Governate –Yemen.

Research population: This study will carried out between nurses in Ibn Sina Hospital in AlMuklla district in Coast Hadhramout Government, Republic of Yemen during the period (August – September) 2020.

Sample size and methods: Stratified random sampling are the method of selection sample, to ensure that all nursing (staff and workers) in Ibn Sina Hospital is included in the study sampling. The sample was randomly chosen 158 nurses who worked in the hospital from a total of them which were 190 nursing during (August – September) 2020

Data collection procedure: The data will be collected from different ages of female and male nurses in Ibn Sina Hospital during 2020.

A self-administrated questionnaire was designed, which included

The following

1. The personal data (age, gender, level of education and level of experience)
2. Important nursing knowledge and main source of information about nutrition and drug interaction in Ibn-Sina Hospital- Coast Hadhramout Governate.
3. Availability of nutrition department or not in Ibn-Sina Hospital and the reasons for lack of interest (carelessness) about nutrition-drug interaction
4. Degree of nursing consciousness of certain groups of drugs and food interaction and to assess the main causes of low nutritional nursing awareness
5. Responsible Health staff for monitoring nutrition and drug interaction as the respondent's opinion.
6. Nursing practice towards nutrition and drug interaction monitoring in Ibn-Sina Hospital- Coast Hadhramout Governate-Yemen.

Data Processing and Statistical analysis: The data will be coded and analysis by statistical package for the social sciences (SPSS) to ensure the accuracy of data such as frequencies and percentage were calculated and present in tables and graphs by using computer office programs (word and excel office 2013).

Ethical Consideration: Approval of the project will be obtained from nursing college management and we took a letter to Ibn Sina hospital management to facilitate our work and data collection. So, participate will be informed about the research including the objectives and ensuring confidentiality those are agree to participated will be enrolled in the study, and that information will be taken in secrecy and will be used just for the research objective and for the benefit of the community.

RESULTS

Nursing plays a key role in nutrition education because nutrition is a part of patient outcomes. The healing of the body can take place only when the nutrients that provide the building blocks for repair are present. Also, they play a vital role in the overall healthcare system. Prehospital nursing has the opportunity to provide nutrition education that can help preserve the health of all populations particularly older adults. Much has been written about eating dysfunction in the geriatric population.^[1]

One hundred fifty-eight nurses working at Ibn-Sins Hospital in Mukalla City, Yemen were approached for participation. All of them provided complete information. The demographic characteristics of the respondents are presented in **Table (1)**.

In our study, we found that most participants were men (65%), and 81% were between the ages of 25 and 35. On the other hand, the nursing diploma was the most common level of education (47%). Also, we found the majority percentage of experience was less than 5 years which was (49%).

Table (2) shows that the majority percentage of nurses (92%) that, the nutrition department was not found in the biggest hospital (Ibn-Sina Hospital) in our governed, on the other hand, we found that 90% of nurses support the presence of the nutrition department in it.

The responsible for nutritional-drug interaction awareness of the drug to the patient in the absence of a dietitian were the doctor 61 % then the nurses and the pharmacy 30%, and 9% respectively. The result is shown in **Figure (1)**.

Figure (2) shows that the main source of information that led to the overlap of nutrition and drug interaction among nurses in Ibn-Sins hospital was nutrition rapporteur 68%, on the other hand, nutrition courses had the lowest percentage 41%.

By collecting information and analyzing data about the nursing knowledge of the existence of the degree of overlap between pharmaceutical drugs and food, we found that they had weak nursing knowledge according to the score of the correct answers (37%), we had six questions about certain groups of the drug's interaction with food, not lead to make decisions and resolve interactions as shown in **Table (3)**

The main causes of low nutritional nursing awareness was no conference courses and seminars (77%) and (66 %) was related to decline in the hospital services as shown in **Figure (3)**

Our results from collecting and analyzing practice data among Nurses regarding nutrition-drug interaction in Ibn-Sina Hospital we found weak practices according to a score of the answers (34%), in which (18%) of the nurses always advised the patient about food-drug interaction and avoided certain foods during the previous six months, (40%) of them always read the warnings and precautions printed on all medicine medicines stickers. And (30%) of

the nurses only always taught the students during their training period the need to know the patient's food and medicine used, on the other hand, (33%) and (22%) of our study sample always give the drug with milk and hot water which can lead to destroy the drugs as shown in Table (4)

Table 1: Socio-demographic characteristics of participants.

Socio-demographic characteristics		Frequency	Percentage
Age	25-35years	128	81%
	36-45 years	21	13%
	≥45 years	9	6%
Gender	Male	103	65%
	Female	55	35%
Level of Education	Nursing Diploma	90	57%
	Bachelors	63	40%
	Postgraduate	5	3%
Experience	≤5 years	77	49%
	5-9 years	48	30%
	10-15 years	33	20%

Table 2: Availability of the nutrition department in Ibn-Sina Hospital.

Availability of nutrition department or not in Ibn-Sina Hospital	Yes		No	
	Freq	%	Freq	%
Is there a specialized department of nutrition at the Ibn-Sina Hospital	13	8%	145	92%
Do you support the presence of the Department of Nutrition at the Ibn-Sina Hospital	142	92%	15	10%

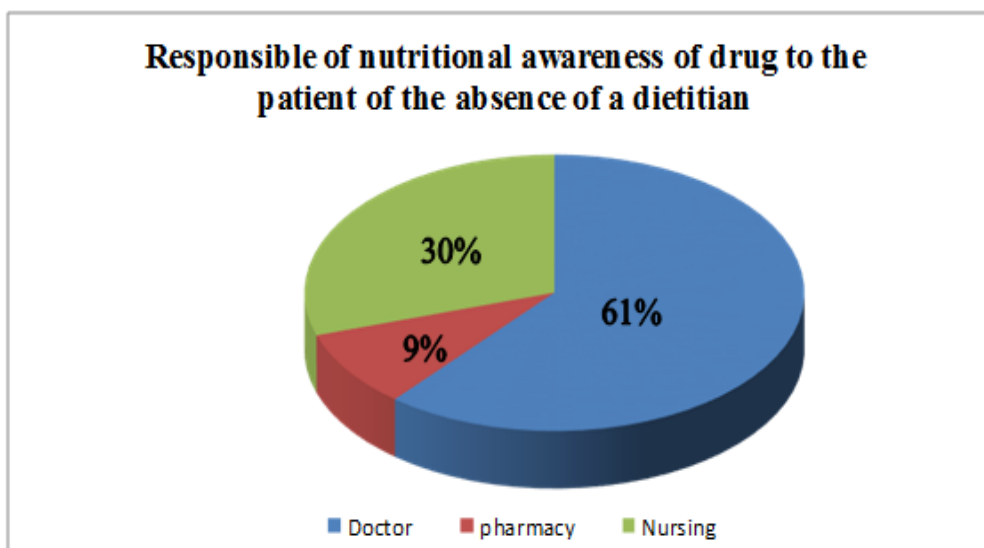


Figure 1: The Responsible for monitoring nutrition and drug interaction as the respondent's opinion of Ibn-Sina Hospital- Coast Hadhramout Governate., Yemen.

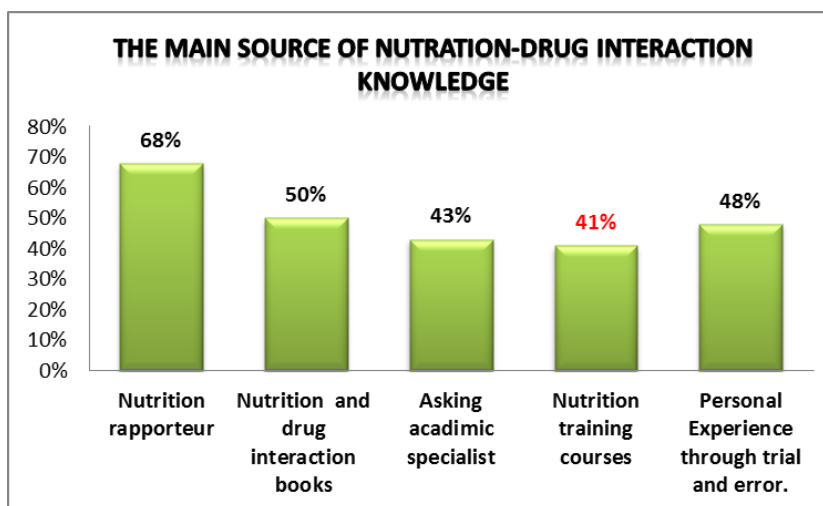


Figure 2: The main source of nutrition - drug interaction nursing Knowledge in Ibn-Sina Hospital- Coast Hadhramout Governate. Yemen.

Table No. 3: Nursing knowledge of the existence of the degree of overlap between pharmaceutical drugs and food.

Nursing knowledge of the existence of the degree of overlap between pharmaceutical drugs and the following foods:	Affect		Not affect		I don't know	
	Freq.	%	Freq.	%	Freq.	%
1) Antiarrhythmic drugs / Pepsi caffeine of coffee	107	68%	5	3%	46	29%
2) Oral contraceptives / Salty foods and foods contraception saline	77	49%	28	18%	52	33%
3) Some antibiotics with milk	66	42%	44	28%	47	30%
4) Garlic, or ginger with medications Nonsteroidal Anti-Inflammatory Drugs (NSAIDS)	43	27%	44	28%	71	45%
5) Warfarin, cooked with onions or green leaves such as spinach watercress, or cranberry juice, green tea	24	15%	43	27%	92	58%
6) Antacid, and some antibiotics Ciprofloxacin	36	23%	49	31%	73	46%
Total score	353				37%	

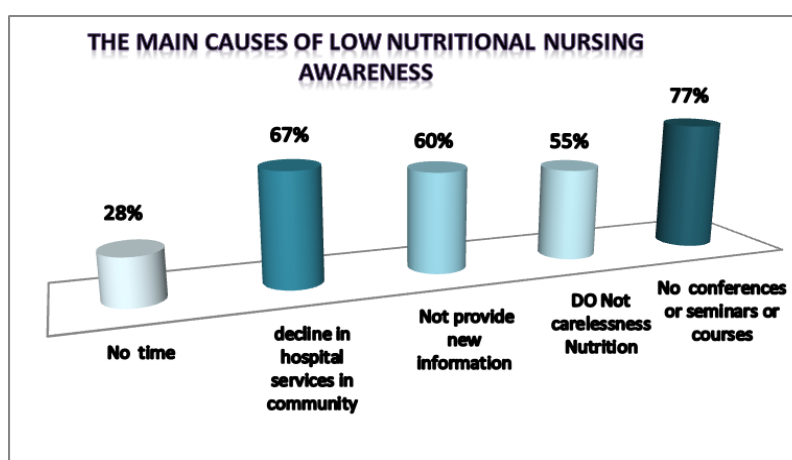


Figure 3: The main causes of low nutritional nursing awareness in Ibn-Sina Hospital- Coast Hadhramout Governate. Yemen.

Table 4: Nursing practice towards nutrition and drug interaction monitoring interaction in Ibn-Sina Hospital- Coast Hadhramout Governate, Yemen.

Nursing practice towards nutrition and drug interaction	Always		Sometimes		If necessary	
	Freq..	%	Freq.	%	Freq.	%
1. Do you give medications to patients with a hot drink (hot tea)	35	22%	65	41%	58	37%
2. Do you give medications to patients with Milk Cup	52	33%	28	18%	77	49%
3. Do you give vitamins to patients with other drugs and food	32	20%	71	45%	55	35%
4. Do you read the warnings and precautions printed on all medicine medicines stickers	63	40%	62	39%	33	21%
5. Have you ever advised the patient about food / drug and avoid certain foods during the previous six months	28	18%	70	44%	60	38%
6. Have you ever learned the students during their training period for the need to know the patient's food and medicine used	47	30%	71	45%	40	25%
Total score of correct Answer	328		34%			

DISCUSSION

Food and Drug Interactions, is one of the sources of Medication errors (3) Adverse Drug Reactions (ADRs), pose a significant public health problem. Several studies confirm that Registered Nurses, play an important role in patient safety.^[3,14]

The present study was successful in evaluating the knowledge, awareness and attitude of FDI among nurses Knowledge and practice about nutrition and drug interaction in Ibn-Sina Hospital- Coast Hadhramout Governate as a serious problem that was weak of our sample.

The majority percentage in our study of Nursing Knowledge and practice about nutrition and drug interaction in Ibn-Sina Hospital- Coast Hadhramout Governate was between 25-35 years which was 81%, on the other hand, we found that males were 65%, but females were 35% in our results. In our study highest percentage was diploma 57% their education levels, on the other hand, less than 5 years of experience were 49% the highest percentage.

In our study the biggest hospital in Coast Hadhramout Governate there is no available department of nutrition and also there is no specialist of nutrition as most hospitals in the world but the responsible of nutrition in Ibn- Sina Hospital according opinion of nurses were doctors.

The main source of the knowledge of interaction between nutrition's and drugs was nutrition rapporteur and the main cause of reduce the level of nurses oriented no found conferences or symposia or courses in nutrition and drugs Nursing knowledge of the existence of the degree of overlap between pharmaceutical drugs and the following foods has weak about drug- food interaction knowledge's, this result disagrees with the study by Güler BALCI ALPARSLAN (2013).^[14]

Nurses regarding nutrition-drug interaction we found weak practices according to a score of the answers, few of the nurses always advised the patient about food-drug interaction and avoided certain foods during the previous six months, of them always read the warnings and precautions printed on all medicine medicines stickers. And some nurses only always taught the students during their training period the need to know the patient's food and medicine used, on the other hand, in our study quarter sample always give the drug with milk and hot water which can lead to destroy the drugs.^[3,1014]

CONCLUSION

The present study indicates that the availability of the nutrition department of Ibn-Sina Hospital the biggest hospital in Coast Hadhramout governate was not found and weak nursing knowledge, and practice about nutrition and drug interaction in Ibn-Sina Hospital – Coast Hadhramout Governate –Yemen.

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