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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/22600
DOI URL: http://dx.doi.org/10.21474/IJAR01/22600

RESEARCH ARTICLE

PUBLIC KNOWLEDGE AND AWARENESS ABOUT FOOD DRUG INTERACTIONS AMONG FEMALES IN THE EASTERN REGION OF SAUDI ARABIA

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Manuscript Info

Manuscript History
Received: 08 November 2025
Final Accepted: 10 December 2025
Published: January 2026

Abstract

Background: Food drug interactions defined as the reactions between drugs and any kind of food or even beverage that causes alterations in the bioavailability of either drug or nutritions that supposed to get from food.The alterations can happen in the pharmacokinetic,pharmacodyna mic or both.

Methodology: A descriptive cross-sectional study was conducted via an online questionnaire in multiple locations in the eastern region of Saudi Arabia.

Results: The study found that majority of respondents have a good general knowledge and awareness about FDIs.

Conclusion: The participants knowledge of Food- drug interactions was good,and their attitudes regarding FDI were positive.Their practice s regarding FDI, superiority of respondents were adhered to health providers instructions. Because the efforts of the ministry of health in Saudi Arabia, it was wishful to provide patients with the necessary information to avoid health problems. However, the pharmacist has an important part in proffering advice.

Introduction:-

ThisAny substance used to treat a disease, alleviate symptoms of abnormalities and disorders or aids in illness diagnosis, is considered a medication. This emphasis the importance of medicines to improve our quality of life. And to target this goal successfully, medications should be taken with the right instructions to avoid the failure of therapy that can be caused by many factors like FDIs which is a very important part to consider to maintain an effective therapy outcomes. Food drug interactions are defined as the reaction between drugs and any kind of food or even beverage that causes alterations in any part of the drug pathway resulting in failure of therapy or adverse events, these alterations can be in the pharmacokinetic and the pharmacodynamic or both of them. The aim of this

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study is to investigate the level of public knowledge and awareness, and understanding improper behaviour regarding FDIs among females in eastern region of Saudi Arabia.

Methodology:-

The study was a descriptive cross-sectional study was conducted via questionnaire in multiple locations in the eastern region of Saudi Arabia. The study population includes female gender at any age in the eastern region of Saudi Arabia to assess their knowledge and awareness about FDIs. The research was conducted after the approval of Hafr Al-Batin university. The purpose and protocol of the study were thoroughly explained to the participants and Informed consent was obtained from them. This study utilized Online questionnaire consisting of 15 questions, the question will have open answers, yes, no, and multiple options. The questionnaire prepared in Google Forms and circulated through WhatsApp and social media was carried out from April 1st to 20th May 2023. the data Analysis was achieved and collected by using Microsoft excel and google analytics.

Results:-

This study included females only. So 100% of the participants were females. The age group between 18 – 30 made up the largest percentage (51.6%) which presents approximately half of the participants. University education group made up the largest percentage (69.2%). 81% of respondents do not suffer from any chronic diseases and majority of them (80.2%) do not have allergies neither.

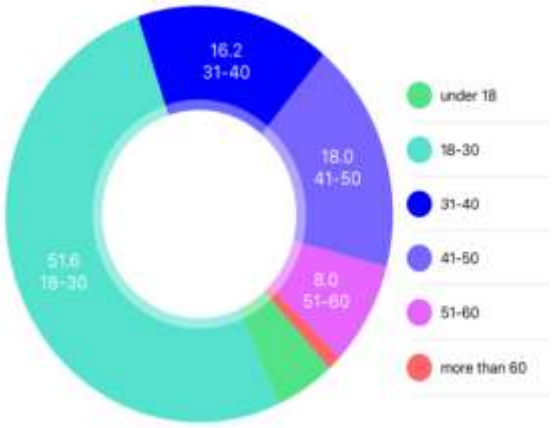

Figure 1. Age of respondents

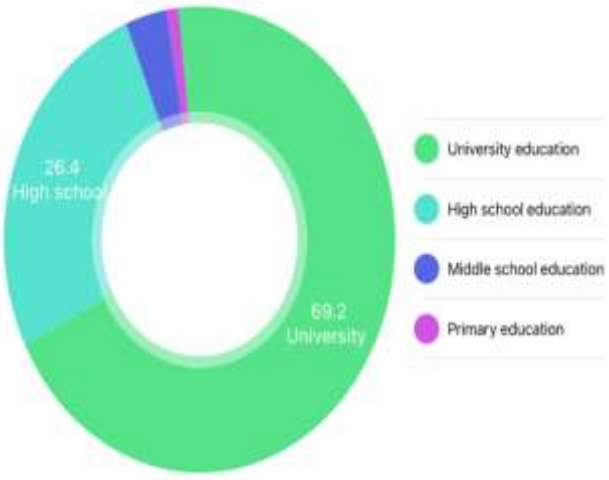

Figure. 2 Educational qualifications of respondents .1

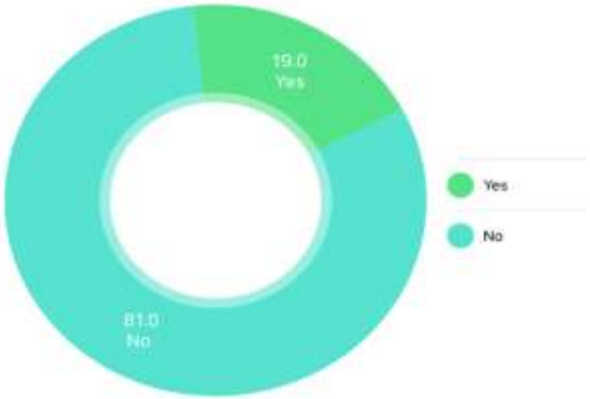

Figure. 3 Respondents having chronic diseases.

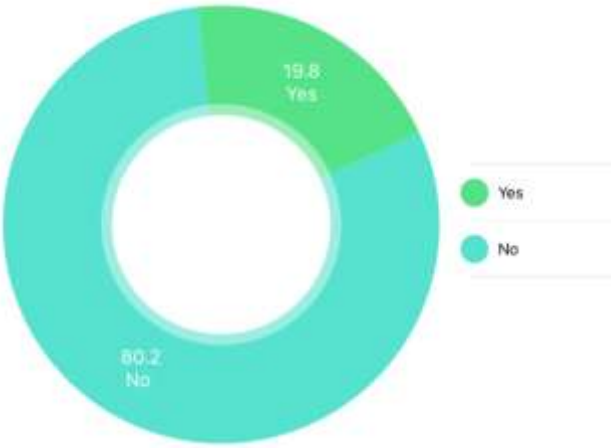

Figure. 4 respondents having allergies.

More than half of respondents (63.4%) have a general knowledge about FDIs. Regarding participants knowledge about specific FDIs, it shows that majority of respondents (85.4%) know that caffeine containing drinks interact with some medications. Approximately half of them (55.2%) think that milk also may interact with some medications. Close proportions of participants chose grapefruit, orange juice and cheese with 31.4%, 26.4% and 21.8% respectively. Only few part of respondents (13.6%) chose garlic as the food may interact with some type of medication.

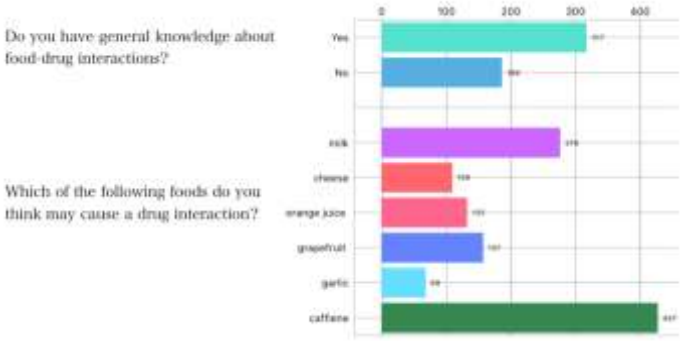

Figure. 5 Knowledge of study participants

Majority of the population (86.6%) of respondents 'yes', (2.20%) represent the answer 'no' and 11.2% showed 'maybe' response about the important to have background and general information regarding drug interactions with foods. According to participants responses to the open question about suggestions that increase public awareness regarding drug-food interactions, the majority of suggestions about Carrying out awareness and educational campaigns in schools, health centers and hospitals, making educational videos and publishing them on social media, offering lectures and workshops for the medical staff and patients, Consultation and question of the doctor or pharmacist before taking the medicine, Awareness leaflets explaining interactions in hospitals and pharmacies, Read the prescription and state that the medicine interacts with foods in a large and clear font on the medicine packaging, Warning patients when dispensing medicines interact with foods, creating small and fun programs to spread awareness effectively.

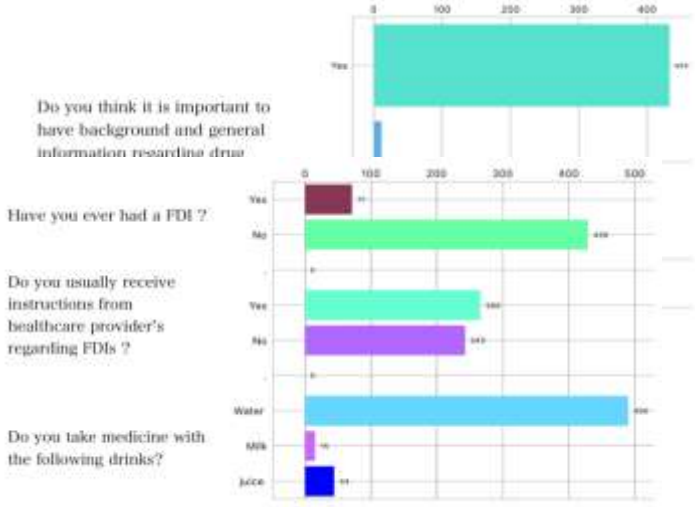

Figure. 6 Attitude of study participants

Six questions were utilized to evaluate practice related to their medication use, About 23.8% of respondent answered rarely, 52.2% replied occasionally and 10.8% responded never that in the taken over the counter medication, only 13.5% answered always. About 67 % answered that they occasionally, 10.4% stated that they never and 22.6% responded they always using kinds of herbs. A 78.2% responded that they always comply with the instructions of the health providers to avoid any drug- food interactions, about 20.6 % answered that they occasionally adhere to the instructions and 1.20% stated that they never follow instructions. Only 14.2% responded 'yes' that they had a drug food interaction befor and 85.8% represented 'no'. About 53.2% responded 'yes', they usually receive instructions from health providers regarding drug-food interactions and 46.8 responded 'no'. The responses in Taken medicine with the following drinks are: with water (98%), with milk (3%), with juice (8.8%). As there was an open answer other participants wrote without drinks, with soup, with diet Pepsi, with food, with coffee, with Coca Cola in small percentage (0.2%) of each.

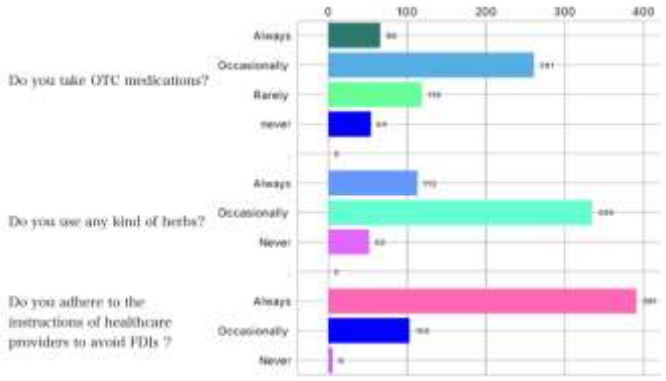

Figure. 7 Practice of study participants pt.1

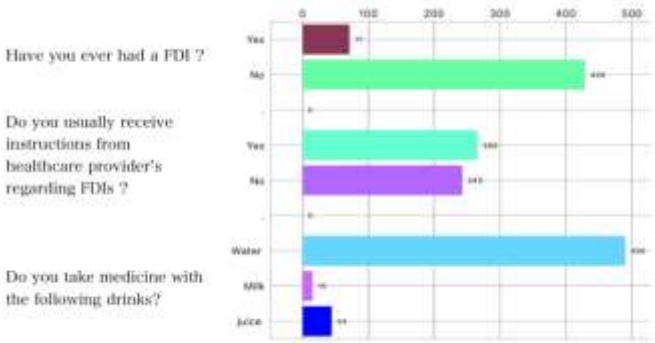

Figure. 8 Practice of study participants pt. 2

Discussion:-

Our study measured the public knowledge and awareness regarding food-drug interactions and its associated factors. The first section is Knowledge, we aimed to evaluate general knowledge and specific food interactions knowledge of the participants regarding food drug interactions, The majority of the participants (63.4%) showed that they have general knowledge whereas (37.3%) of our participants lack of knowledge, however the food specific questions demonstrated greater knowledge regarding caffeine and milk which represent (85.4%) and (55.2%) respectively, and lower knowledge regarding garlic (13.6%). The second part is attitudes, we aimed to evaluate participants' perceptions on the importance of obtaining general information regarding FDI, the majority of participants (86.6%) agree that obtaining general information is important.The last part is practice, we aimed to estimate the participants adherence and the use of herb and OTC, the adherence patterns show good practice where (78.2%) of the participants always adhered to the health care providers instructions, and the majority of participants use herb and OTC occasionally which represent (67%) and (52.2%) found respectively. While previous research has focused on public knowledge and awareness, our study is the first study to measure knowledge and awareness regarding food-drug interactions specifically among females in the eastern region of Saudi Arabia.

In line with the hypothesis that demonstrate the more knowledge the less FDI will be, our study showed that the majority of participants with general knowledge of FDI did not experience any FDI, the study also addressed unexpected results where (46.8%) of the participants did not received any instructions regarding FDI from health care providers despite the fact that the health care providers and particularly the pharmacists play an important role in promoting awareness to prevent FDI, which is agreed with the study conducted on people from various backgrounds which demonstrated that clinical pharmacologists have most knowledge about FDIs, and support that nurses and doctors need additional training about food drug interactions to improve the therapeutic efficacy, drug compliance and safety of patients [27]. Our study showed that different people from different educational qualifications demonstrated variable levels of knowledge regarding specific food drug interactions ranging from good to poor knowledge, which agreed with other study demonstrated that Pharmacists have shown high level of knowledge of some interactions; but low level of knowledge of others [25], In addition to the previous study, pharmacy students showed a dissimilar levels of awareness that is notably associated with their education level and foreknowledge of FDIs [31].

The findings of our study show that participants' knowledge of FDI was good, and their attitudes and practices regarding FDI were positive which is dissimilar of the study have been reported that Saudi population have limited awareness and knowledge of FDIs, in contrast there were similarity in the importance of obtaining general knowledge regarding FDI, science a significant number of the participants in their study agreeing with the importance of reading the label before drug use [2]. The generalizability of the results is limited by specificity of female participants, also the reliability of these data is impacted by the questionnaire, and due to the low number of geriatric participants the results cannot confirm the level of knowledge and awareness in this group. Our study had several strengths involved large sample size indicate the effectiveness and accuracy of the study, the methodology distinguished by reliability, inexpensive, timesaving, and preserve participants' confidentiality.

Conclusion:-

Based on the response of participants to the question about whether they receive instruction from health care providers or not, we concluded that there is a lack of active policies and guidelines that are potentially contributing

to high rates of FDI in Saudi Arabia. Therefore, The Saudi Arabia Ministry of Health should regulate the process of information given by the pharmacists because they have a direct main role in the prevention of FDI since multiple studies have demonstrated that the pharmacist obtained the highest levels of knowledge regarding FDI, during dispensing any medication, and there should be active law enforcements to limit those practices. On the other hand, community pharmacy staff should have more awareness regarding the seriousness and consequences of the problem that they should think beyond the profit and the sales of their pharmacies.Public awareness should also be encouraged as patient-based factors are major participants in avoiding Food-drug interactions.

Recommendations:-

The current findings of this study can contribute to the current knowledge regarding the assessment and implication of interactions on a very important and global health issue that FDI. This research provides room for further research to be done on other aspects serving a cause of FDI. further education is needed by offering lectures and workshops for the medical staff and patients, Authorize free application by ministry of health is needed for public to check any potential FDI.

Acknowledgment:-

First and foremost, thanks to the God. We would like to express the deepest gratitude to our research supervisor, Dr.Dalia Mohammad Anbari , for giving us the golden opportunity to do this magnificent project on food drug interactions and increase our knowledge, it was a great privilege to work and study under her guidance. Secondly, our parents we are extremely appreciation their love and sacrifices for educating and preparing us for our future. Finally, we grateful to our participants for the cooperation in our survey, who helped us to continue our research and get a good result.

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