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The Pattern of using Oral Rehydration Salts in the outpatient setting in Al-Kharj

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aim: The present study aimed to describe the pattern of using oral rehydration salts in the outpatient setting in Al-Kharj.
Methodology: This retrospective study was carried out at outpatient department in Al-kharj. The study included all of the patients who received oral rehydration salts in the outpatient pharmacy between January and July 2018.
Results: From January/2018 to June/2018, 416 patients received oral rehydration salts (oral rehydration solution) from the outpatient pharmacy of the hospital. More than half of the patients who received oral rehydration salt were males (59.62%). Most of the patients were less than 10 years old (71.15%). Most of the prescriptions were prescribed by emergency department (99.28%) and most of the physicians who prescribed oral rehydration salts were residents (99.28%).
Conclusion: The present study showed that oral rehydration salts were commonly used in Al-kharj. Further studies are needed to explore the frequency of using oral rehydration salts in different settings.

Keywords: Oral rehydration salts; outpatient; pattern; use.

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1. INTRODUCTION

Diarrhea remains a leading cause of death among young children and infants [1–4]. The major pathogenic mechanism of diarrhea mortality is dehydration [5]. In developing countries, dehydration is responsible for more than 50% of diarrheal deaths [5].

Dehydration occurs when water intake isn't enough to replace free water lost that is caused by the normal physiologic processes such as breathing, perspiration, and urination, or other causes such as vomiting and diarrhea [6]. Sometimes, the dehydration can be life-threatening and cause respiratory arrest or seizures [6].

Oral rehydration salts (ORS) are a mixture of electrolytes and carbohydrates dissolved in water and are used to replace water and salts that the body loses when the patients have dehydration caused by diarrhea, gastroenteritis, or vomiting [7]. Oral rehydration salts are used for children and adults and are available in different doses to replenish with the corresponding volumes of drinking water [8].

Oral rehydration salts are available without a prescription. They don't stop the diarrhea immediately but they replace the water and some important salts (electrolytes), such as potassium and sodium, that are lost from the body due to diarrhea and helps prevent more serious problems [9]. Some carbohydrate and electrolytes solutions could also be used after surgical procedure when food intake has been stopped [9]. Furthermore, previous studies showed that oral rehydration salts result in reducing child mortality [10,11], Oral rehydration salts could cause some unwanted effects. For example, too much sodium (salt) in the body could cause dizziness, convulsions, fast heartbeat, irritability, high blood pressure, restlessness, swelling of feet or lower legs, muscle twitching, and weakness [9]. Too much fluid in the body could cause puffy eyelids [9]. Other side effects may occur that generally don't need medical attention such as vomiting [9]. If Oral rehydration salts aren't available, the patient should use water, broth, and/or other fluids but should not use drinks with a high sugar content, such as soft drinks, juice, or sports drinks, because they could worsen diarrhea [12].

There are few studies about the frequency and pattern of using oral rehydration salts in Alkharj. So, the present study aimed to describe the pattern of using oral rehydration salts in the outpatient setting in Al-Kharj

2. METHODOLOGY

This retrospective study was carried out at outpatient department in Al-kharj. The study included all of the patients who received oral rehydration salts in the outpatient pharmacy between January and July 2018. The patients who didn't receive and the patients who received oral rehydration salts from other settings were excluded from the present study.

The required data was collected from electronic outpatients' records and included the personal data of the patients, the number of patients who received oral rehydration salts during the study, the duration of oral rehydration salts use, the level of the prescribers who prescribed oral rehydration salts, the type of the prescriptions, and the departments that prescribed oral rehydration salts.

The data were collected and analyzed using Excel spreadsheet after the approval of the study by the IRB ethical committee of the hospital. The number and percentage of the different categories were represented in the 6 Tables.

3. RESULTS AND DISCUSSION

From January/2018 to June/2018, 416 patients received oral rehydration salts (oral rehydration solution) from the outpatient pharmacy of the hospital. More than half of the patients who received oral rehydration salt were males (59.62%). Most of the patients were less than 10 years old (71.15%). The personal data of the patients are shown in Table 1.

Table 2 shows the number of patients who received oral rehydration salts during the study. About 25.72% of the prescriptions were prescribed in March and 21.39% of the prescriptions were prescribed in April.

Table 3 shows the duration of oral rehydration salts use. Most of the patients used oral rehydration salts for 3 days (91.35%).

Table 1. The personal data of the patients

Variable	Category	Number	Percentage
Gender	Female	168	40.38
	Male	248	59.62
Age	Less than 10	296	71.15
	10-19	51	12.26
	20-29	33	7.93
	30-39	15	3.61
	40-49	13	3.12
	50-59	3	0.72
	60-69	4	0.96
	More than 69	1	0.24
Nationality	Saudi	367	88.22
	Non- Saudi	49	11.78

Table 2. The number of patients who received oral rehydration salts during the study

Month	Number	Percentage
January	47	11.30
February	64	15.38
March	107	25.72
April	89	21.39
May	43	10.34
June	66	15.87

Table 3. The duration of oral rehydration salts use

Duration	Number	Percentage
1 Day	18	4.33
2 Days	7	1.68
3 Days	380	91.35
4 Days	1	0.24
5 Days	10	2.40

Table 4. The level of the prescribers

Prescribers Level	Number	Percentage
Specialist	0	0.00
Resident	413	99.28
Consultant	3	0.72

Table 5. The type of the prescriptions

Prescription type	Number	Percentage
Regular	390	93.75
Emergency or VIP	9	2.16
Urgent	17	4.09

Table 6. Prescribing departments

Department	Number	Percentage
Internal Medicine	1	0.24
Emergency	413	99.28
Pediatrics	2	0.48

Table 4 shows the level of the prescribers who prescribed oral rehydration salts. Most of the physicians who prescribed oral rehydration salts were residents (99.28%).

Table 5 shows the type of the prescriptions. Most of the prescriptions were for regular patients and 4.09% of the prescriptions were urgent prescriptions.

Table 6 shows the departments that prescribed oral rehydration salts. Most of the prescriptions were prescribed by emergency department (99.28%).

Oral rehydration salts were used commonly in the outpatient department in Al-kharj. It is widely available and commonly used because it is safe, effective, inexpensive, convenient, and is available without a prescription [13]. Dadonaite reported that oral rehydration salts are one of the most common treatments used to prevent dehydration caused by diarrhea [14]. Harris and Braun stated that oral electrolyte solutions are widely used for rehydration in diarrheal illness and also are used to maintain hydration during vigorous exercise [15]. This result is rational because these salts are used to replace salts and water that the body loses when the patients have dehydration caused by diarrhea, gastroenteritis, or vomiting that are common conditions. Suh et al informed that diarrheal disease is one of the leading causes of worldwide morbidity and mortality, especially in children [16]. Moreover, diarrhea as well as vomiting is usually caused by gastroenteritis [17] that is a very common condition and is usually caused by a bacterial or viral tummy bug [18].

The majority of the patients who visited emergency department have vomiting or diarrhea, so it is rational that more than 99% of the prescriptions that contained oral rehydration salts in the present study were prescribed by emergency department.

Most of the patients used oral rehydration salts for 3 days or less. This is rational because oral rehydration salts should be used for 2 to 3 days and the patients shouldn't use oral rehydration salts to treat diarrhea for more than 2–3 days unless the clinician recommend its use for longer duration [7] because diarrhea is usually short-lived and lasts 2 to 3 days [19,20].

4. CONCLUSION

The present study showed that oral rehydration salts were commonly used in Al-kharj. Further studies are needed to explore the frequency of using oral rehydration salts in different settings. Moreover, it is important to increase the awareness of health care workers and the patients about the wise use of oral rehydration salts.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

The data were collected and analyzed using Excel spreadsheet after the approval of the study by the IRB ethical committee of the hospital.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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