PREVALENCE OF DIARRHEA AND ITS ASSOCIATION WITH DRINKING WATER

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ABSTRACT:
Diarrhea, also spelled diarrhea, is the condition of having at least three loose, liquid, or watery bowel movements each day. It often lasts for a few days and can result in dehydration due to fluid loss. Signs of dehydration often begin with loss of the normal stretchiness of the skin and irritable behavior. This can progress to decreased urination, loss of skin color, a fast heart rate, and a decrease in responsiveness as it becomes more severe. Loose but non-watery stools in babies who are exclusively breastfed, however, are normal. This cross-sectional study was conducted among outdoor patients presenting in children departments of different hospitals. Name, age, gender, history of diarrhea, disease duration and drinking water status was noted on a predefined proforma. All the data was entered and analyzed with SPSS Ver. 23.0. There were 130 patients. The mean age of the patients was 9.01±1.23 years. There were 65 (50%) males and 65 (50%) females included in this study. The maximum disease duration was 6 months, and the minimum duration was 6 days. Out of 130 patients, 45 patients gave the history of unpurified water intake.

KEYWORDS: DIARRHEA
INTRODUCTION:

Diarrhea, also spelled diarrhoea, is the condition of having at least three loose, liquid, or watery bowel movements each day. It often lasts for a few days and can result in dehydration due to fluid loss. Signs of dehydration often begin with loss of the normal stretchiness of the skin and irritable behaviour. This can progress to decreased urination, loss of skin color, a fast heart rate, and a decrease in responsiveness as it becomes more severe. Loose but non-watery stools in babies who are exclusively breastfed, however, are normal.

The most common cause is an infection of the intestines due to either a virus, bacterium, or parasite—a condition also known as gastroenteritis. These infections are often acquired from food or water that has been contaminated by feces, or directly from another person who is infected. The three types of diarrhea are: short duration watery diarrhea, short duration bloody diarrhea, and persistent diarrhea (lasting more than two weeks, which can be either watery or bloody). The short duration watery diarrhea may be due to cholera, although this is rare in the developed world. If blood is present, it is also known as dysentery. A number of non-infectious causes can result in diarrhea. These include lactose intolerance, irritable bowel syndrome, non-celiac gluten sensitivity, celiac disease, inflammatory bowel disease such as ulcerative colitis, hyperthyroidism, bile acid diarrhea, and a number of medications. In most cases, stool cultures to confirm the exact cause are not required.

Diarrhea can be prevented by improved sanitation, clean drinking water, and hand washing with soap. Breastfeeding for at least six months and vaccination against rotavirus is also recommended. Oral rehydration solution (ORS)—clean water with modest amounts of salts and sugar—
is the treatment of choice. Zinc tablets are also recommended. These treatments have been estimated to have saved 50 million children in the past 25 years. When people have diarrhea it is recommended that they continue to eat healthy food and babies continue to be breastfed. If commercial ORS is not available, homemade solutions may be used. In those with severe dehydration, intravenous fluids may be required. Loperamide may help decrease the number of bowel movements but is not recommended in those with severe disease (1-3). The objective of this study was to understand the association of diarrhea with drinking water.

MATERIAL OF METHODS:
This cross-sectional study was conducted among outdoor patients presenting in children departments of different hospitals. Name, age, gender, history of diarrhea, disease duration and drinking water status was noted on a predefined proforma. All the data was entered and analyzed with SPSS Ver. 23.0. The quantitative variables were presented as mean and standard deviation. The qualitative variables were presented as frequency and percentages.

RESULTS:
There were 130 patients. The mean age of the patients was 9.01±1.23 years. There were 65 (50%) males and 65 (50%) females included in this study. The maximum disease duration was 6 months and the minimum duration was 6 days. Out of 130 patients, 45 patients gave the history of unpurified water intake.

DISCUSSION:
Numerous studies have shown that improvements in drinking water and sanitation (WASH) lead to decreased risks of diarrhoea. Such improvements might include for example use of water filters, provision of high-quality piped water and sewer connections. In institutions, communities, and households, interventions that
promote hand washing with soap lead to significant reductions in the incidence of diarrhea. The same applies to preventing open defecation at a community-wide level and providing access to improved sanitation. This includes use of toilets and implementation of the entire sanitation chain connected to the toilets (collection, transport, disposal or reuse of human excreta). Basic sanitation techniques can have a profound effect on the transmission of diarrheal disease. The implementation of hand washing using soap and water, for example, has been experimentally shown to reduce the incidence of disease by approximately 42–48%. Hand washing in developing countries, however, is compromised by poverty as acknowledged by the CDC: "Handwashing is integral to disease prevention in all parts of the world; however, access to soap and water is limited in a number of less developed countries. This lack of access is one of many challenges to proper hygiene in less developed countries." Solutions to this barrier require the implementation of educational programs that encourage sanitary behaviours.

Given that water contamination is a major means of transmitting diarrheal disease, efforts to provide clean water supply and improved sanitation have the potential to dramatically cut the rate of disease incidence. In fact, it has been proposed that we might expect an 88% reduction in child mortality resulting from diarrheal disease as a result of improved water sanitation and hygiene. Similarly, a meta-analysis of numerous studies on improving water supply and sanitation shows a 22–27% reduction in disease incidence, and a 21–30% reduction in mortality rate associated with diarrheal disease.

Immunization against the pathogens that cause diarrheal disease is a viable prevention strategy, however it does require targeting certain pathogens for vaccination. In the
case of Rotavirus, which was responsible for around 6% of diarrheal episodes and 20% of diarrheal disease deaths in the children of developing countries, use of a Rotavirus vaccine in trials in 1985 yielded a slight (2–3%) decrease in total diarrheal disease incidence, while reducing overall mortality by 6–10% (4–6).

REFERENCES: