Editorial

It's a matter of immense pleasure for me to write an editorial message for this high quality research journal of University Medical and Dental College. I am sure that like previous issue it will maintain its high standards. The Editorial team of JUMDC is devoted and dedicated. This reflects our efforts to inculcate research culture in our institution both at the level our faculty and undergraduate students.

We are counting on you as a reader, author and peer reviewer in achieving our goals. We expect from our readers a feedback on the articles and the journal as a whole. From our authors we expect compliance with the requirements of the journal to prevent unnecessary delay in publishing their articles. Reviewers have a pivotal role in ensuring scientific high quality that the journal has achieved so far by their in–depth critiquing of manuscripts and timely submissions of their reviews. The editorial board is doing its best to facilitate the process of publishing.

Acute diarrhea is a major public health problem in both resource-limited countries like Pakistan and developed countries of the world.[1,2,6] In the former acute diarrhea is the second highest cause of death (after pneumonia) in children under five, and it is likely that repeated enteric infections may be responsible for both growth and mental retardation in a sizeable number of children. The primary factor responsible for acute diarrhea is the lack of clean water with the existing water supplies frequently contaminated with fecal wastes. Acute diarrhea also affects individuals in more economically advanced countries in several distinct ways including:

a. epidemically when the food-supply chain is broken (which often becomes newsworthy and is the subject of much 'headline' news) and becomes contaminated by one or more bacteria; and
b. sporadically during travel to underdeveloped countries which is often referred to as 'Traveler's diarrhea'.

I have been attending World Digestive Health Day (WDHD)–which has been held since its inauguration in 2004 on 29 May, the anniversary of the founding of the World Gastroenterology Organisation (WGO)–was established to emphasize to both the Public and Professionals the importance of a major digestive tract illness. The theme for this year's WDHD is the Prevention and Management of Enteric infections: the important role of clean water, clean food, and clean environment. This year's WDHD will emphasize both the public health aspects of acute infectious diarrheal diseases as well as the scientific issues regarding interaction between multiple infectious agents and the small and large intestine.

The gastrointestinal tract has the largest surface interface to the environment and as a result has the potential for exposure to viruses, bacteria, parasites and a large variety of toxins. Equally important is that the intestine (especially the colon) has an extremely large endemic population of bacterial organisms that are associated with health and can be altered in several disease situations. Molecular methodology has opened a new world for the study of the endogenous fecal flora. When challenged by pathogens, the defense mechanisms of our innate and adaptive immune systems may respond by induction of fluid secretion and propulsive muscular activity resulting in diarrhea (and hopefully expulsion of the pathogen that initiated the process). The resulting diarrhea especially in very young children often leads to dehydration and metabolic acidosis, and primary treatment of acute diarrhea is the use of oral rehydration solution (ORS). ORS leads to enhanced fluid absorption primarily as a result of stimulation of glucose-stimulated sodium and water absorption (via SGLT1) in the small intestine. Unfortunately, ORS usage world-wide is quite low (~30-35%) for many reasons, and concerted action is required to increase its use with the expectation that enhanced use of ORS will lead to improved child health.

Over the past three decades there have been several efforts to alter the formulation of ORS to reduce diarrhea and accelerate improvement. The present ORS formulation is hypo-osmolar with the administration of zinc for 10 days.[2,7,8] An alternative approach that shows considerable progress is the incorporation of so-called amylase-resistant starch (starch that is relatively resistant to amylase digestion)[3] that will result in both liberation of glucose in the small intestine and the production of short-chain fatty acids in the colon–a dual-action ORS. Many diarrheal diseases find their way to the human gut via contaminated water supplies[4] and access to clean water or means for cleaning water are crucial for preventing spread of disease. Likewise, clean food, how to avoid contamination of food, and clean environments are key issues in large parts of the world. The causative agent in many cases of acute diarrhea has eluded identification. Advances in molecular biology are now providing new knowledge and new tools for identifying virus and bacteria. It is anticipated that significant improvement in the diagnosis and treatment of acute infectious diarrhea will occur during the coming decade.[7]

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