

Khairpur City (DHQ Hospital)
Report of Week 1 (August 23rd – September 1st, 2010)

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Introduction:

A team of pediatricians, nurses, and paramedical staff from the Aga Khan University has been providing medical care to pediatric patients presenting for care to the Khairpur District Health Quarter (DHQ) City Hospital since August 23rd, 2010. The services have been set up in collaboration with Khairpur EDO, DHQ hospital and district management.

Medical care provided includes emergency triage, rapid resuscitation, out-patient services, in-patient admissions and hospital ward coverage. Two wards have been made available for in-patient care by the district administration. Medical care-related supplies have been provided by AKU as well as by EDO. Support of local staff of the DHQ is also available.



Figure 1. Children with severe dehydration due to acute gastroenteritis undergoing rapid fluid resuscitation

Burden of diseases seen among children at Khairpur City Hospital (KCH)

A total of 1213 children have been seen at KCH since August 23rd. Since the first day a large number of children with acute watery diarrhea and dehydration started arriving at the hospital. Many children were in moribund state requiring rapid fluid resuscitation (Figure 2). Among the 810 patients seen in week 1, 472 (58%) presented with diarrhea. Among these, 29 were classified as mild/loose motions, 9 as dysentery (blood in stools), and 443 as acute watery diarrhea with dehydration. Most of the acute watery diarrhea patients were from Baberlo camp.

There have been three deaths to date (case fatality rate of 0.002%) among the children seen at KCH to date. The very low case fatality rate even though the level of acuity of children is very high in the population seen is because of the rapid availability of fluid resuscitation which has saved hundreds of lives.

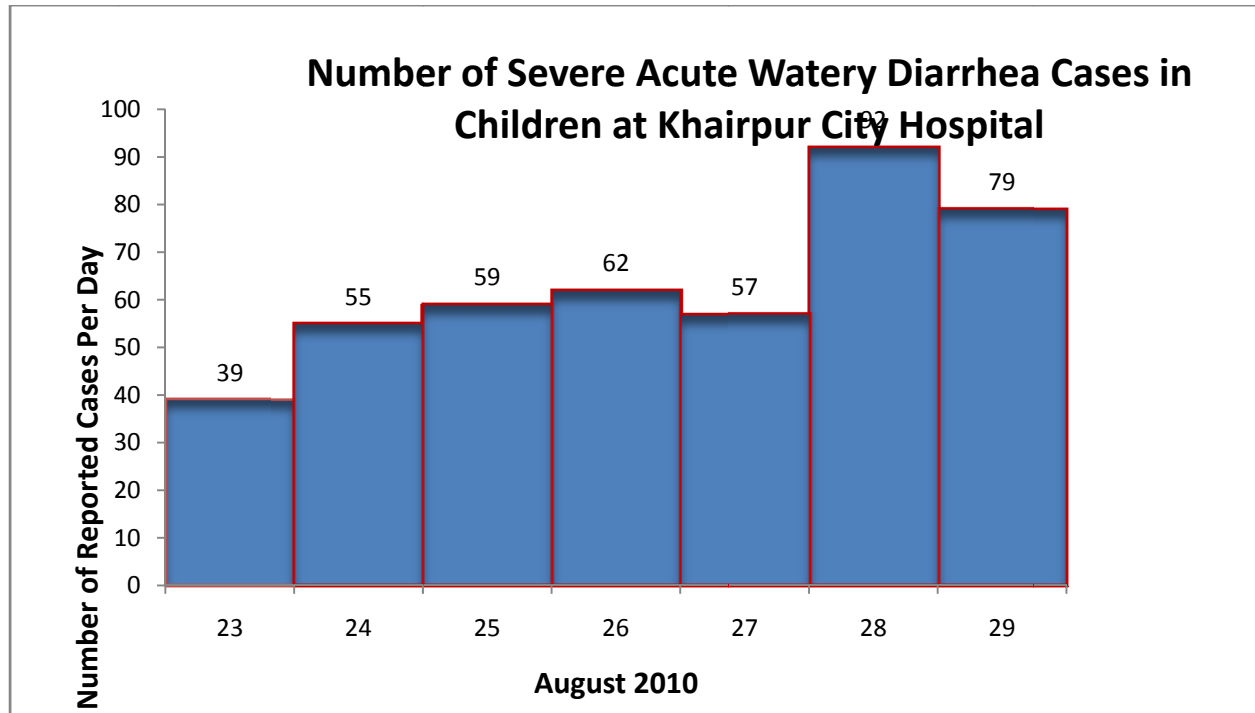
On August 23rd, a 3 year old female child weighing presented in a state of severe dehydration and coma and could not be revived. On September 1st, 2 other children passed away from diarrhea, both of whom had pre-existing conditions (cerebral palsy and severe malnutrition in one case, and severe seizure disorder in the other child).



Figure 2. Severely dehydrated child in moribund status on arrival

The daily trend of children coming with severe acute watery diarrhea is shown in Figure 3.

Figure 3: Trend of children presenting to Khairpur City Hospital with severe acute watery diarrhea, week of August 23-29th, 2010



Laboratory Diagnosis and Therapy

As WHO does not recommend antibiotic therapy for severe acute watery diarrhea unless occurs in the context of a cholera epidemic, a few stool specimens from children presenting on the initial days of the week were sent to the Aga Khan University Pediatric Infectious Disease Research Laboratory in Karachi. This laboratory specializes in enteric diagnostics and participates in several international research projects on diarrheal diseases and in external quality assurance programs.

Stool specimens were collected in buffered glycerol saline (BGS) and alkaline peptone water (APW) for enrichment and transport and transported on dry ice to the laboratory utilizing the AKUH laboratory collection point services in Khairpur.

In the laboratory stool specimens from both tubes were plated immediately on MacConkey, XLD, TCBS, Salmonella/Shigella, and Campy agar and incubated as per CLSI guidelines. Identification by biochemicals, serological strain testing in case of *Vibrio cholerae* identification, and antimicrobial susceptibility testing were performed as per CLSI guidelines.

A total of 29 cultures were sent to the lab. The culture results are shown in Table 1 below. Among the 29 cultures, 13 (48%) are confirmed to have grown *Vibrio cholerae* (8 of type ogawa, 5 untypeable). All are sensitive to ciprofloxacin.

Table 1. Culture results of stool specimens from children in Khairpur City Hospital (n=29)

Name of pathogen	Number isolated
<i>Vibrio cholerae</i>	13
<i>Vibrio</i> spp.	1
<i>Aeromonas</i> / <i>Salmonella</i> / <i>Campylobacter</i>	7
No growth of pathogen	8

Further detail is provided in attached appendix (excel sheet)