

Indian Academy of Pediatrics (IAP)



## GUIDELINES FOR PARENTS

# Diarrhea

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### 10 FAQs ON DIARRHEA

1. What is diarrhea?
2. What is not diarrhea?
3. Why does my child have diarrhea?
4. What fluids should I give to my child when she/he has diarrhea?
5. Does my child need antibiotics to recover from diarrhea?
6. How should I ensure that my child does not become weak because of diarrhea?
7. My child develops diarrhea every now and then. What should I do?
8. My child's diarrhea is not resolving despite treatment. What should I do?
9. Are there certain foods and drinks that I should avoid giving to my child during an episode of diarrhea?
10. Should I stop giving milk or change milk if my child has diarrhea?

### Under Auspices of IAP Action Plan 2020–2021

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# Guidelines for Parents: Diarrhea

## Q1. What is diarrhea?

**a**

### How do I suspect that my child is having diarrhea?

When stool is unusually loose or watery and occurs at least three times within a 24-hour timeframe, we call it diarrhea. A recent change in consistency of the stool is the most characteristic feature of diarrhea.

**b**

### What do you mean by stool consistency?

Consistency refers to the degree of firmness. Normal stool consistency is soft, and it passes easily. The stool is typically loose or watery in diarrhea meaning that there is more water than fecal matter in the stools. A loose stool takes the shape of the container in which it is passed. Passage of more water in stools can result in dehydration.

**c**

### Can diarrhea be dangerous?

Dehydration is the most dreaded complication of diarrhea. Diarrhea can also result in disturbances of electrolytes (salts) in the body, namely sodium and potassium. Even a single large stool in cholera may result in severe dehydration.

## Q2

### What is not diarrhea?

The number of stools routinely passed in a day, differ with the age and diet of the child, as shown in **Table 1**. Younger is the child, more frequent he/she passes stools. The individual variation in number of stools also is more during first 3 months of age. Diarrhea is diagnosed, when the consistency and frequency of stool become different from what the child normally experiences.

**TABLE 1:** Normal\* stool frequency in Indian children.

Age of child	No. of stool/day
0–1 month	5–6
1–3 months	3–4
4–6 months	2
7–24 months	1–2
1–18 years	1

\*This is the average number of daily stools passed as rounded off from available Indian studies. Some children can pass more or less than this number and may still be normal.

The following should *not* be considered as diarrhea:

- **In newborn babies:** A thick and sticky dark green to black substance that looks like tar, is the stool that a baby passes within first 24–48 hours after birth. This thick blackish stool, known medically as “*meconium*”, becomes loose or watery with a yellowish green or greenish brown color after 3–6 days. This is called **transitional stool**. Transitional stools may be watery enough to resemble diarrhea, but if the baby has no other symptoms and is feeding well, it should not be considered diarrhea. This watery consistency is a result of undigested sugar in breast milk that acts as a laxative. It is also a good sign indicating that mother is producing plenty of milk. Frequent passage of liquid stools also helps to clear the jaundice that some children develop in the first week of life.
- **Breastfed babies:** Babies who have been exclusively breastfed (only breast milk, no other liquid, not even water) often pass frequent, liquid, or soft stool, usually many times in a day. The stools are usually yellowish, golden brown or sometimes even greenish. Sometimes, the baby may pass a loose stool after every meal during the first 2–3 months of life. This happens because intestines of a small baby move very fast to digest frequent milk feeds. When milk goes into the stomach, the colon (part of the intestine) gets triggered to empty itself for the next meal. That is why babies have a bowel movement as soon as they feed, or even while feeding. However, but this is not diarrhea. In some infants, this passage of stool may happen during the process of feeding itself. In another set of babies, this may happen 0.5–1 hour after the feed. However, as the child grows older, this reflex diminishes.
- **Frequent passage of formed stools is not diarrhea:** As mentioned earlier, some children may normally pass stool more frequently than others as a normal habit. The frequency of stool is mainly determined by the type of diet being consumed. Children who are breastfed, children who eat a lot of fruits, vegetables, and whole grain products, or those who consume a lot of fat, sugar or caffeine may pass stool more frequently than children on a low residue diet.

However, if the passage of stools is accompanied with pain in abdomen or distention of abdomen, you should consult your pediatrician to rule out irritability of the bowel or an infection or allergy.

Q3

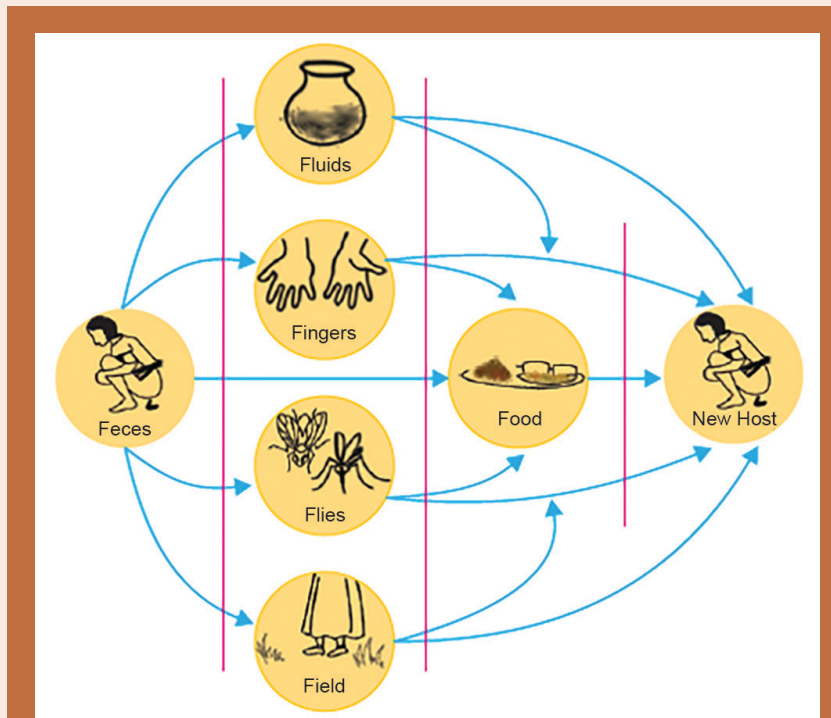
Why does my child have diarrhea?

Diarrhea can occur due to many reasons. The most common cause of diarrhea in children is a viral infection of the intestine. Rotavirus is one such virus that causes diarrhea, especially in children younger than 2 years of age. Other causes could be bacterial or parasitic infections, reactions to medicines, allergy or intolerance to certain foods, and disorders of intestines.

As the organ affected by these infections is primarily the intestinal tract (gut), correspondingly the most likely route of entry of infection remains through the oral cavity/mouth. Thus, diarrhea usually develops in the settings of poor sanitation and hygiene, when there is lack of safe drinking water, improper hand hygiene, while preparing the food or feeding the child, leaving the cooked food uncovered, using unclean utensils, bottle feeding, consumption of unpasteurized milk or unhygienic street food, improper disposal of excreta since food can get contaminated (**Fig. 1**). Initiating semisolid foods or top milk before 6 months of age also increases the risk of diarrhea.

Excessive consumption of fruit juice and sugary or carbonated drinks can also cause diarrhea as lot of unabsorbed sugar passes into the intestines carrying along more quantity of water that is passed in the stools.

We must follow all hygiene and sanitation processes to reduce the risk of diarrhea, but you must understand that sometimes diarrhea may develop despite taking all hygiene precautions.



**Fig. 1:** Transmission of diarrheal infection.

Source: Intensified Diarrhoea Control Fortnight Tool Kit, Child Health Division, Ministry of Health and Family Welfare, Government of India, April 2019. Available from: <https://nhm.gov.in/index1.php?lang=1&level=5&sublinkid=1310&lid=691> [Last accessed December, 2020].

**Q4**
**What fluids should I give to my child when she/he has diarrhea?**

If your child has diarrhea, she/he loses water and electrolytes in stools. This leads to dehydration, which can be serious if not corrected promptly. In fact, dehydration is the reason to worry than the diarrhea itself.

Therefore, the very first thing to do with the onset of diarrhea is to give your child plenty of fluids by oral route (mouth). This will provide water and electrolytes that are lost in stools. Oral rehydration salt (ORS) solution is one such lifesaving fluid. ORS contains glucose and electrolytes in a specific ratio. It is given to replace the fluid that child is losing because of vomiting and diarrhea. It is safe, simple to prepare and use, easily available in all government hospitals; or can be purchased at most medical stores without a prescription.

**a**
**How should I prepare ORS?**

To be effective, the ORS should be prepared exactly as indicated on the packet. One packet of ORS is usually meant to make 1 L of solution, but sometimes smaller packets to make 200 mL of solution are also available. Remember that the entire packet has to be prepared all in once (**Fig. 2**). It should not be prepared partly, like dissolving one spoon in one glass, as it will change the concentration of the solution, and can be harmful. Readymade liquid preparations of ORS are best avoided as sometimes they may not have the recommended composition of electrolytes and sugar. ORS solution should be given after each loose motion to replace the lost fluid as per the age of the child in the following doses as shown in **Table 2**.

**b**
**How should I administer ORS to my child with diarrhea?**

Oral rehydration salt solution should be given slowly with a spoon or in small sips. Giving it rapidly from a glass/cup/tumbler may lead to vomiting. If the child vomits while drinking, wait for 10 minutes and then give it more slowly at the rate of one teaspoon every 1-2 minutes. Once prepared, the ORS can be consumed up to 24 hours. Any remaining ORS should be discarded and be freshly prepared for the next use. Please note that ORS will not cure diarrhea, which usually gets better on its own in 3-7 days in most cases. However, it does prevent and treat the dehydration that is the main reason for concern.

**c**
**Can I also give fluids, other than ORS?**

After starting ORS, the second most important fluid that should be given is breastfeeding. Breastfeeding needs to be continued because it not only provides fluid and energy but also provides factors that enhance immunity of the child so that diarrhea gets better soon.

Apart from ORS and breastfeeding, other home available fluids that can be given depending on availability and preference of the child are:

- Rice or pulses-based drink (rice water, *dal* water)
- Vegetable soup
- Yogurt drink with salt (salted *Lassi*)
- Lemon drink (*Shikanji* with added salt and less sugar)
- Coconut water
- Plain water can be given in between.

**d**
**Is there any medicine that I need to give, other than ORS?**

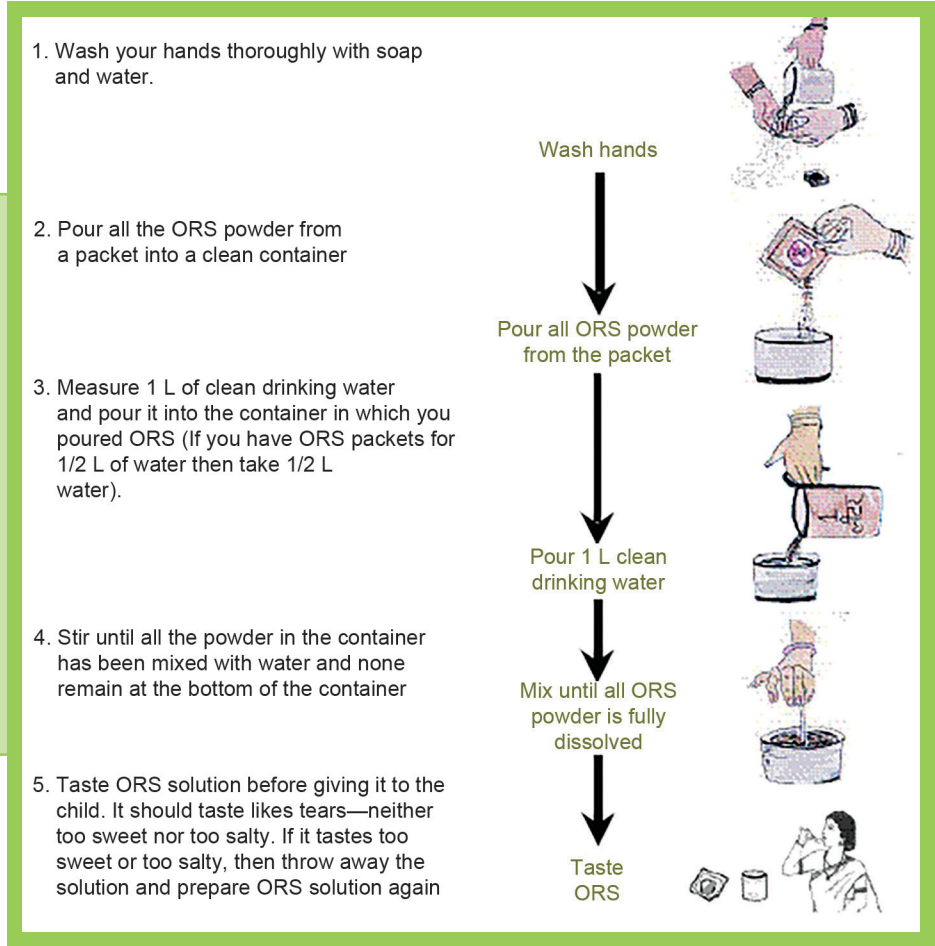
Other than ORS, the only recommended medicine in diarrhea is zinc. Zinc should be taken after prescription by a health worker. It is administered 20 mg/day for a total of 14 days to children between 6 months to 5 years of age. For children between 2-6 months of age, 10 mg/day for 14 days needs to be given. It helps in reducing the duration and severity of diarrhea. It is also helpful in preventing further episodes of diarrhea for next 3 months.

e

### How should I monitor my child for danger signs?

If your child has diarrhea, you should monitor closely for any alarming sign, such as reduced frequency or quantity of urine, feeling very thirsty or restless, looking more ill, vomiting everything, blood in stool, inability to drink or breastfeed, cold extremities, or change in responsiveness (drowsy or lethargy). If you notice any of these signs, then you should seek immediate medical attention.

**Fig. 2:** Steps of preparing oral rehydration salt (ORS) solution.  
 \* This instruction describes how to prepare ORS solution from a regular ORS packet. Small sachets that must be dissolved in 200 mL of water are also available.  
 Source: Intensified Diarrhoea Control Fortnight Tool Kit, Child Health Division, Ministry of Health and Family Welfare, Government of India, April 2019. Available from: <https://nhm.gov.in/index1.php?lang=1&level=5&sublinkid=1310&lid=691> [Last accessed December, 2020].



**TABLE 2:** Amount of oral rehydration salt (ORS) solution for different age groups.

S. No.	Age of the child	Amount of ORS solution to be given after each loose motion
1.	Up to 2 months*	5 teaspoons after each loose motion
2.	2 months to 2 years	1/4–1/2 glass (50–100 mL)
3.	2 years to 10 years	1/2 cup to 1 glass (100–200 mL)
4.	Over 10 years	As much as needed, upto 2 L/day

\* Diarrhea in infants <2 months of age could also be a feature of some serious infection, and prompt medical advice should be sought from pediatrician while continuing oral rehydration and breastfeeding.

## Q5

## Does my child need antibiotics to recover from diarrhea?

Antibiotic therapy is mostly not necessary to treat diarrhea in children as most diarrheal episodes are caused by viruses, which do not get killed by antibiotics. Even in cases where bacteria (e.g., *Escherichia coli*) are the cause of diarrhea, most episodes resolve without antibiotics. Most cases of diarrhea are self-limiting, regardless of causative factor.

Inappropriate use of antibiotics neither reduces the severity of diarrhea nor shorten its duration. In fact, overuse of antibiotics can cause side effects and may lead to prolongation of duration of diarrhea, and development of antibiotic resistance.

**When to give antibiotics?**

In few cases where blood is present in the stool, or if the child is having some other concomitant infection (e.g., pneumonia, ear infection, and urine infection) or having any immunodeficiency or severe malnutrition, antibiotic treatment may be required. Persistent fever, or other symptoms, such as cough or difficulty in breathing, ear pain or pain during urination, may indicate presence of some other infection, which sometimes may need antibiotics or any other medicine. However, only a doctor/healthcare personnel can evaluate the need, type, and duration of antibiotics in such cases. You must visit your pediatrician, if there is any such concern.

## Q6

## How should I ensure that my child does not become weak because of diarrhea?

One of the main consequences of diarrhea is malnutrition. This could be caused by a decrease in appetite, recurrent vomiting, reduced absorption of food in the intestine, or the body's need for extra food because of the infection. But it could also be the result of the common yet very harmful practice of withholding or diluting food or restricting the child to a liquid diet.

**What diet should I give to my child with diarrhea?**

Unnecessary curtailing a child's diet results in an inadequate intake of nutrients that could hamper the growth and makes the child weak. Therefore, milk or food intake should not be restricted during or after diarrhea. Children suffering from diarrhea who continue feeding tend to recover more quickly and regain weight better when they recover than children whose diet is restricted.

- To help the child digest food more easily, meals should be given more frequently and in small amounts. This will also reduce the risk of vomiting.
- Breastfeeding must be continued in children who were receiving it before.
- Food such as gruel from rice, pulses, or other cereals which are readily available and can be easily prepared at home are the best option besides breastfeeding.
- After each episode of diarrhea, the child's food intake should be increased from its usual intake for at least a week or two, after the diarrhea stops or until the child is back on its original weight.

Also, it is important that the child continues to consume enough of its regular liquids (including breastfeeding), in addition to the ORS.



**Q7** My child develops diarrhea every now and then. What should I do?

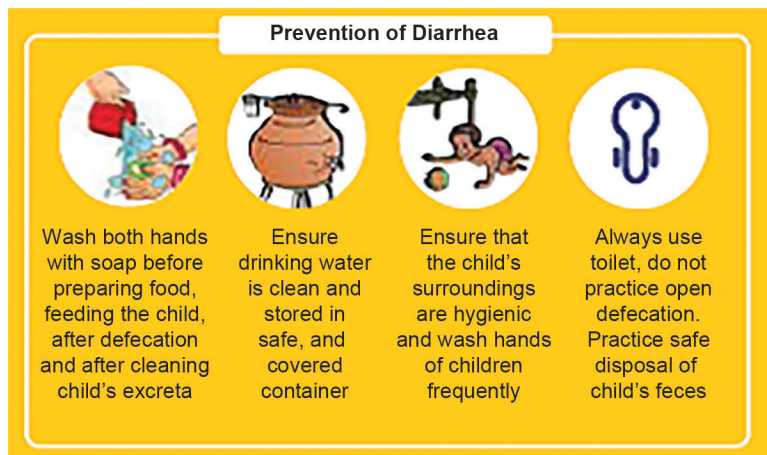
Frequent episodes of loose motion will require certain preventive measures. Following steps will be useful:

- a. *Care of nutrition:* Taking care of the child's nutrition is important, because good nutrition is one of the crucial factors for preventing any recurrent infection. To make sure that a child gets proper nutrition, it is important that up to the age of 6 months only breastfeeding should be given because it is safe, clean, and have nutrients as per the needs of the baby. Breastfeeding also protects the child from infection. At 6 months of age, breastfeeding needs to be complemented with age-appropriate nutritious food. Consumption of sugary drinks should be avoided (especially marketed fruit juices).
- b. *Completing the course of zinc:* Child should complete the 14-day course of zinc prescribed by doctor for his/her episode of diarrhea, even if the diarrhea stops earlier than that. Zinc helps in averting another episode of diarrhea in the next 3 months.
- c. *Care of personal and food hygiene:* Most frequent cause of diarrhea occurring repeatedly is lack of

personal or food hygiene, and thus it is vital to take care of this aspect to prevent diarrheal episodes (**Fig. 3**):

- Wash your hands with soap and clean running water after changing diapers, disposing child's feces, using toilet, and prior to preparing the food or feeding the child can alone bring down the possibility of diarrhea substantially (**Fig. 4**).
- Use safe drinking water.
- Prepare, store, and serve of food in hygienic way that include using clean utensils, keeping the cooked food covered, and consuming freshly prepared food.
- Do not allow your child to swim at unclean pools.
- Use toilets and avoid open defecation.
- d. *Vaccination:* Up-to-date immunization, especially for rotavirus and measles, helps in preventing diarrhea.
- e. *Medicines:* Avoid self-medication, especially antibiotics. These should always be used only in consultation of your doctor.
- f. *Diseases:* Certain diseases such as dietary allergies and inflammatory bowel diseases can lead to recurrent diarrhea and need evaluation by a doctor.

*In a nutshell, the most effective way to prevent diarrheal infections are breastfeeding, proper handwashing, safe drinking water, and vaccination.*



**Fig. 3:** Ways to prevent diarrhea.

Source: Intensified Diarrhoea Control Fortnight Tool Kit, Child Health Division, Ministry of Health and Family Welfare, Government of India, April 2019. Available from: <https://nhm.gov.in/index1.php?lang=1&level=5&sublinkid=1310&lid=691> [Last accessed December, 2020].



**Fig. 4:** Steps of handwashing.

Source: Intensified Diarrhoea Control Fortnight Tool Kit, Child Health Division, Ministry of Health and Family Welfare, Government of India, April 2019. Available from: <https://nhm.gov.in/index1.php?lang=1&level=5&sublinkid=1310&lid=691> [Last accessed December, 2020].

**Q8**

My child's diarrhea is not resolving despite treatment. What should I do?

**a**
**What is persistent diarrhea?**

The usual duration of diarrhea is 5-7 days, and in most children, it stops within this period. In children <2 years of age, especially in those who have malnutrition, it may sometime persist beyond 2 weeks, and then it is called persistent diarrhea. When a child develops persistent diarrhea, which is observed in upto 10% cases, it can lead to significant nutritional problems.

**b**
**What are the causes of persistent diarrhea?**

Persistent diarrhea could be because of an unusual infection that does not go away on its own, or it could be because of damage to gut lining because of an acute episode of diarrhea. Too much juice or carbohydrate sweetened liquid consumption, medication, and altered immune function are some uncommon causes of persistent diarrhea.

**c**
**Can allergies cause prolonged diarrhea?**

Allergies and intolerances to certain food may cause prolonged diarrhea that may persist over many weeks to months and causes problems with the absorption of nutrients from the gut, known as malabsorption. If children do not absorb enough nutrients from the food, they may become malnourished. To treat these allergies and intolerance, we sometimes need to remove the food that triggers the problem from the child's diet.

For example, people who have a condition called celiac disease cannot tolerate gluten, a protein found in wheat. After proper diagnosis of this condition, a gluten-free diet in these children will improve the symptoms tremendously.

Another example is lactose intolerance, in which milk or milk products trigger digestive symptoms. People with lactose intolerance do not have enough enzymes to breakdown lactose, which is a type of sugar present in milk or milk products.

The other food allergies are those to cow milk, soy products, eggs, and seafood. A healthcare provider should be consulted for dietary advice to allay the symptoms.

The treatment of these prolonged episodes of diarrhea lies between taking care of a possible infection and review of nutritional changes required.

Children with persistent diarrhea may also have deficiency of vitamin A, zinc, and other nutrients, which will need an assessment. Parents must follow the advice of a pediatrician for the best management of persistent diarrhea.

**Q9**

Are there certain foods and drinks that I should avoid giving to my child during an episode of diarrhea?

**a**

You should *avoid giving drinks with lots of added sugar* such as carbonated drinks, fruit drinks, fruit juices, and plain glucose solutions during an episode of diarrhea.

- High sugar and sorbitol present in these drinks might make diarrhea worse because of the osmotic effect.
- These drinks may even increase electrolyte imbalance in the body because they do not contain the correct sodium and glucose ratio required.

**b**

*Avoid giving caffeinated drinks* like tea, coffee, or carbonated drinks, during diarrhea.

Caffeine stimulates gut and has laxative property and can also induce diuresis leading to exacerbation of dehydration.

**c**

*Avoid giving street foods* as poor hygiene can further lead to infection and parasitic infestations compounding the diarrhea.

**d**

Similarly, *processed foods should be avoided*, because of excess salt in these foods that can disturb the electrolyte equilibrium further and can make the dehydration worse.

## Q10

### Should I stop giving milk or change milk if my child has diarrhea?

One of the most critical nutritional consequence of diarrhea in children is malnutrition. Thus, continuation of feeding is very crucial to provide essential nutrients during diarrheal episode and prevent malnutrition. As emphasized repeatedly earlier, breastfeeding helps to provide important nutrients and fluids to the baby and should never be discontinued when the child is having diarrhea.

As per the observations, compared to milk-free diet, children tend to recover better with milk-fed diet, without any increase in duration of diarrhea or relapse.

Routinely, stopping the milk and changing the preparation are therefore not necessary. Breastfeeding must be continued, and if the baby is >6 month old and is on predominant milk diet, mixing it with cereals helps in improving energy density and absorption of nutrients.

*However, in cases of persistent diarrhea (persist for >14 days), a few dietary modifications, including reducing the quantity of milk in the diet, may be needed but these should be done only in consultation with your pediatrician.*

*In most cases, as opposed to general belief, a continuous feeding of undiluted milk can be continued during an episode of acute diarrhea.*

### What to do in diarrhea?

- Start giving ORS and plenty of suitable home available fluids at the earliest, to prevent dehydration.
- Continue breastfeeding and usual diet of the child during diarrhea.
- Ensure proper sanitation and hygiene, especially handwashing, for the child and caregiver.
- Complete full 14-day course of zinc tablet/syrup as prescribed by your doctor.
- Consult your pediatrician promptly if there is blood in stools, or if the child appears unwell or dehydrated.

### What not to do in diarrhea?

- Do not starve the child. Offer him/her small, frequent home-cooked hygienic food.
- Do not give antibiotics or any other drug on your own. Except ORS, any other medicine needs to be prescribed by healthcare provider, if required.
- Do not use sugar/glucose solutions, fruit juices or carbonated drinks for rehydration.
- Do not stop breastfeeding or milk routinely during diarrhea.
- Do not delay consulting a pediatrician if child does not improve on his/her own or if child appears dehydrated or unwell.