

Key messages:

- In 2011, 32 percent of households surveyed in Punjab, and, in 2010, 78 percent of households surveyed in Balochistan reported unsafe disposal of the feces of their youngest child under age three.
- Even among households with improved toilets or latrines, 15 percent in Punjab and 73 percent in Balochistan reported unsafe child feces disposal behavior.
- Unsafe child feces disposal is more prevalent among households that defecate in the open, those in rural areas, those that are poorer, and those with younger children.¹

OVERVIEW

Safe disposal of children's feces is as essential as the safe disposal of adults' feces. This brief provides an overview of the available Multiple Indicator Cluster Surveys (MICS) data on child feces disposal in Balochistan and Punjab Provinces of Pakistan and concludes with ideas to strengthen safe disposal practices, based on emerging good practice.

The Joint Monitoring Programme for Water Supply and Sanitation (JMP) tracks progress toward Millennium Development Goal 7 target to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. The JMP standardized definition for an improved sanitation facility is one that hygienically separates human excreta from human contact.²

In the latest JMP report, only 48 percent of Pakistan's population had access to improved sanitation in 2012.³ This means that 93.9 million individuals in Pakistan lacked improved sanitation in 2012, of which 41.3 million practice open defecation.⁴ However, these estimates are based on the household's primary sanitation facility, and may overlook the sanitation practices of young children. In many cases, children may not be able to use an improved toilet or latrine—because of their age and stage of physical development or the safety concerns of their caregivers—even if their household has access to one.

SUMMARY OF CHILD FECES DISPOSAL DATA

In 2011, 68 percent of households surveyed in Punjab reported that the feces of their children under age three were safely disposed of. In 2010, 22 percent of those surveyed in Balochistan reported safe feces disposal.

Only 52 percent of households in Punjab reported that their youngest child's feces were deposited into an improved sanitation facility, according to MICS 2011 (see Figure 1). In contrast, in Balochistan, only 14 percent used improved disposal (see Figure 2).



Although safe disposal is substantially higher in Punjab than in Balochistan, both provinces report much higher safe disposal in urban than in rural areas: 92 vs. 59 percent in Punjab and 46 vs. 15 percent in Balochistan. Households practicing open defecation reported the lowest prevalence of safe child feces disposal (see Figures 3 and 4).

In both Punjab and Balochistan, households lacking improved sanitation, those in rural areas, and poorer households—as well as households with younger children—have a higher prevalence of unsafe disposal of child feces. Households practicing open defecation reported the highest level of unsafe child feces disposal, at 86 percent in Punjab and 93 percent in Balochistan. While it is possible, it is not probable that households who do not use improved sanitation themselves deposit their children's feces into a toilet/latrine (see Data Sources section for more information).

Within each province, the prevalence of safe feces disposal is fairly uniform across age groups: 63–68 percent of Punjab households and 16–24 percent of Balochistan households report using safe feces disposal regardless of the age of their youngest child under age three. However, as children age, they are increasingly likely to use a toilet/latrine themselves. At these young ages, the behavior of the child's caregiver is critical to dispose of their feces safely and shape the child's toilet training.

What Is "Safe Disposal" of a Child's Feces?

The safest way to dispose of a child's feces is to help the child use a toilet or latrine or, for very young children, to put or rinse their feces into a toilet or latrine. For the purposes of this brief, these disposal methods are referred to as "safe," whereas other methods are considered "unsafe." By definition, "safe disposal" is only possible where there is access to a toilet or latrine. When a child's feces is put or rinsed into an "improved" toilet or latrine, this is termed "improved child feces disposal."

FIGURE 1 In Punjab, 68 percent of households reported that the feces of their children under age three were safely disposed. Percentage of children under age three with each feces disposal type, Punjab, 2011.

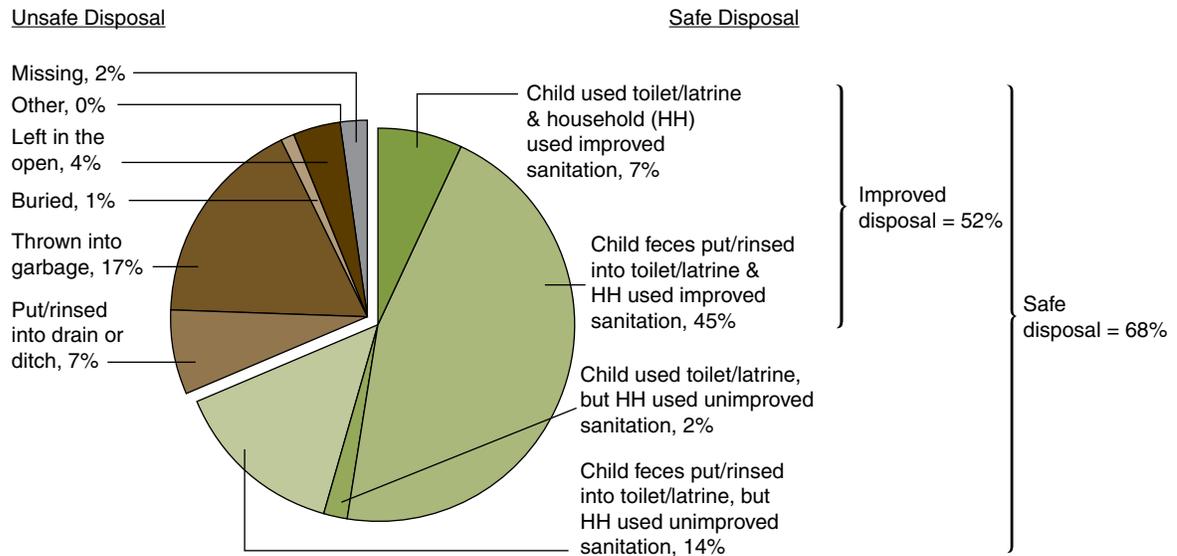
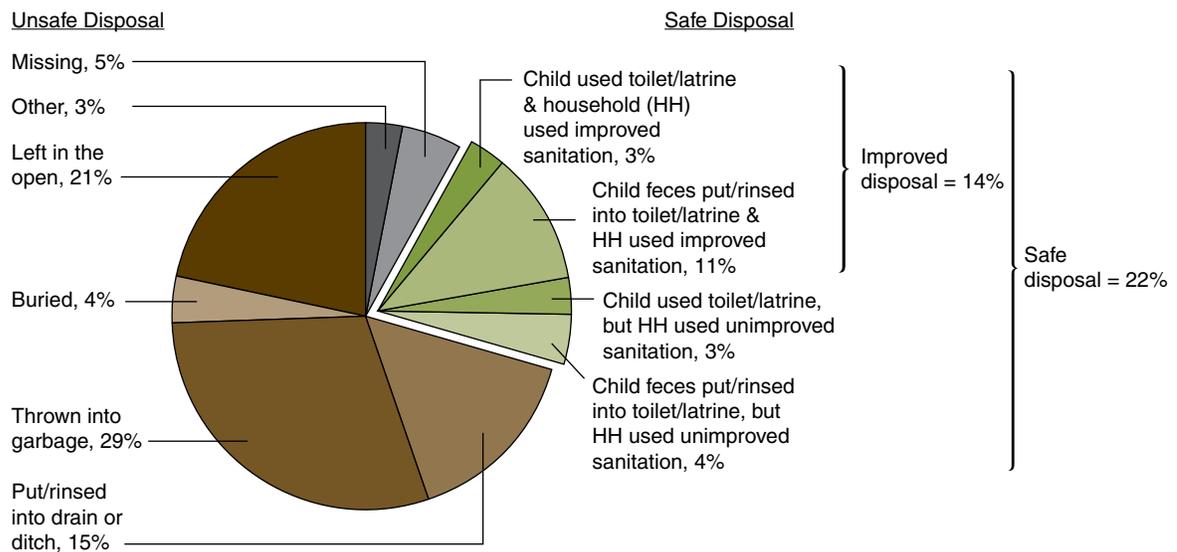


FIGURE 2 In Balochistan, 22 percent of households reported that the feces of their children under age three were safely disposed. Percentage of children under age three with each feces disposal type, Balochistan, 2010.



In both Punjab and Balochistan, safe disposal differs widely across the wealth asset quintiles.⁵ In Punjab, households in the least wealthy quintile have substantially lower safe child feces disposal than households in the other wealth quintiles. In Balochistan, households in the lowest three quintiles are substantially less likely than the wealthier quintiles to report safe disposal: only 8–17 percent of the households in the poorest three quintiles report safe disposal. Further, in Balochistan, the feces of more than a quarter of children in households in the lowest three quintiles were left in the open.

Although there are substantial differences between disposal practices in Punjab and Balochistan, the trends seen are the same in both provinces. For example, in both Punjab and Balochistan, households without access to improved sanitation, in rural areas, and from lower wealth quintiles consistently report lower safe disposal of child feces. Although this brief only focuses on one socioeconomic indicator at a time, applying multiple lenses would show even greater extremes of disparity—with the poorest rural households reporting the greatest prevalence of unsafe disposal.

FIGURE 3 In Punjab, households with any sanitation facility (unimproved, shared, or improved) report substantially higher safe child feces disposal compared to open defecation households. Reported feces disposal practice for children under age three, by household sanitation facility type, Punjab, 2011.

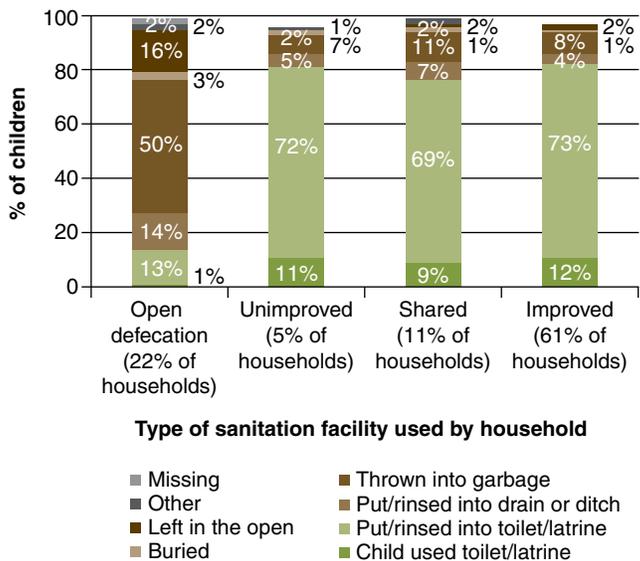
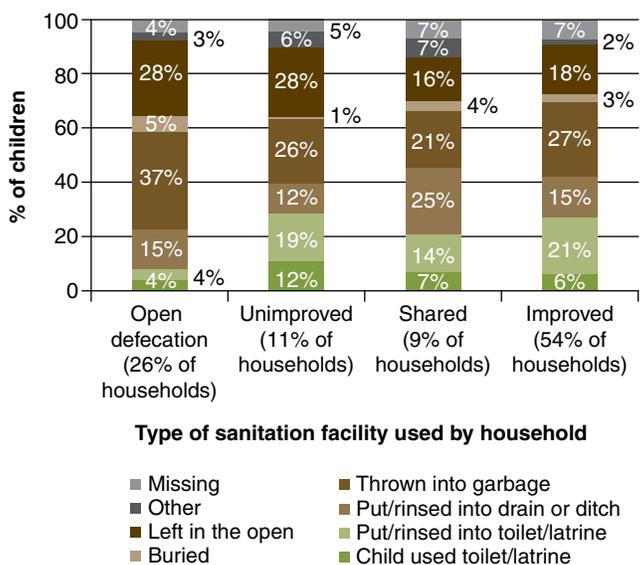


FIGURE 4 In Balochistan, even among households with any sanitation facility, safe child feces disposal is extremely low. Reported feces disposal practice for children under age three, by household sanitation facility type, Balochistan, 2010.



IDEAS FOR CONSIDERATION

In Pakistan, there are few interventions aimed at the safe disposal of children's feces during the first years of life. In general, sanitation for children under age three has been a neglected area of policy and program intervention both globally and in Pakistan.

What Is the Impact of Unsafe Disposal of Children's Feces?

There is widespread belief that the feces of infants and young children are not harmful, but this is untrue. In fact, there is evidence that children's feces could be more risky than adult feces, due to a higher prevalence of diarrhea and pathogens—such as hepatitis A, rotavirus, and *E. coli*—in children than in adults.⁶ Therefore, children's feces should be treated with the same concern as adults' feces, using safe disposal methods that ensure separation from human contact and household contamination.

In particular, the unsafe disposal of children's feces may be an important contaminant in household environments, posing a high risk of exposure to young infants.⁷ Poor sanitation can result in substantial health impacts in children, including a higher prevalence of diarrheal disease, intestinal worms, enteropathy, malnutrition, and death. According to the World Health Organization (WHO), most diarrheal deaths in the world (88 percent) are caused by unsafe water, sanitation, or hygiene. More than 99 percent of these deaths are in developing countries, and about eight in every 10 deaths are children.⁸ Diarrhea obliges households to spend significant sums on medicine, transportation, health facility fees, and more, and can mean lost work, wages, and productivity among working household members.⁹ Stunting and worm infestation can reduce children's intellectual capacity, which affects productivity later in life. The WHO estimates that the average IQ loss per worm infection is around 3.75 points.¹⁰



Given the relatively few programs focusing on children's sanitation in Pakistan and globally, there is not a strong evidence base of effective strategies for increasing the safe disposal of children's feces. Significant knowledge gaps must be filled before comprehensive, practical evidence-based policy and program guidance will be



available. Nevertheless, organizations and governments interested in improving the management of children's feces could consider:

- Conducting formative research to understand the behavioral drivers and barriers to safe child feces disposal
- Strengthening efforts to change the behavior of caregivers through programs that encourage cleaning children after defecation, potty training children, and using appropriate methods to transport feces to a toilet/latrine as well as handwashing with soap after fecal contact and before preparing food or feeding a child
- Exploring opportunities to integrate child sanitation into existing interventions that target caregivers of young children, such as including key messages in antenatal/newborn care materials and infant and young child feeding guidance provided to parents, and ensuring that midwives' training, as well as early childhood development materials and preschool programs, include information on safe child feces disposal
- Partnering with the private sector to improve feces management tools, such as potties, diapers, tools for retrofitting latrines for child use, and scoopers
- Improving the enabling environment for management of children's feces by including specific child feces related criteria in open defecation free (ODF) verification protocols and in national sanitation policies, strategies, or monitoring mechanisms.

DATA SOURCES

Unless otherwise specified, all analysis in this brief is based on self-reported child feces disposal behavior collected in the 2011 Punjab Multiple Indicator Cluster Survey (MICS) and the 2010 Balochistan MICS, which are the latest MICS or DHS available for Pakistan that record child feces disposal behavior. The MICS and DHS collect data in a generally harmonized manner and hence are the basis for this country profile series. However, whereas the DHS collects data on the youngest child under age five living with the mother for each household, the MICS collects data on all children under age three who live with the respondent (mother or caretaker). To maximize comparability, we restricted all analysis to children under age three in all figures.

It is likely that self-reports overestimate safe disposal.¹¹ In Bangladesh, for example, although 22 percent of children reportedly either used a toilet/latrine or their feces were put or rinsed into the toilet/latrine (according to MICS 2006), a structured observation of behavior conducted under UNICEF's Sanitation, Hygiene Education and Water Supply in Bangladesh (SHEWA-B) program in 2007 found that only 9 percent of subjects disposed of child feces into a toilet/specific pit.¹² Regardless of this issue, self-reports are currently regarded as the most efficient method for gauging safe disposal of children's feces.

REFERENCES

- ¹ Bureau of Statistics (Punjab), United Nations Children's Fund (UNICEF), and United Nations Development Programme (UNDP). 2013. *Pakistan—Punjab Multiple Indicator Cluster Survey 2011*. New York: UNICEF. Bureau of Statistics (Balochistan), United Nations Children's Fund (UNICEF), and United Nations Development Programme (UNDP). 2012. *Pakistan—Balochistan Multiple Indicator Cluster Survey 2010*. New York: UNICEF. Please see the "Data Sources" section.
- ² The JMP has established a set of standardized definitions to categorize improved sanitation, which are used to track progress toward Millennium Development Goal 7. However, these definitions are not always the same as those used by national governments. See *Progress on Drinking Water and Sanitation: Update 2014*.
- ³ WHO/UNICEF Joint Monitoring Programme, 2014. *Progress on Drinking Water and Sanitation: Update 2014*. Geneva: World Health Organization.
- ⁴ WHO/UNICEF, 2014.
- ⁵ The wealth indices used to classify households into wealth quintiles include drinking water and sanitation variables.
- ⁶ Feachem, R., D. Bradley, H. Garelick, et al. 1983. *Sanitation and Disease: Health Aspects of Excreta and Wastewater Management*. *World Bank Studies in Water Supply and Sanitation* 3. Chichester, UK: John Wiley & Sons.
- ⁷ Gil, A., C. Lanata, E. Kleinau, and M. Penny. 2004. *Children's Feces Disposal Practices in Developing Countries and Interventions to Prevent Diarrheal Diseases: A Literature Review*. Strategic Report 11. Peru: Environmental Health Project (EHP).
- ⁸ WHO. 2009. *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks*. Geneva: World Health Organization, 23.
- ⁹ Favin, M., G. Naimoli, and L. Sherburne. 2004. *Improving Health Through Behavior Change: A Process Guide on Hygiene Promotion*. Joint Publication 7. Washington, DC: Environmental Health Project (EHP).
- ¹⁰ WHO. 2005. *Report of the Third Global Meeting of the Partners for Parasite Control: Deworming for Health and Development*. Geneva: World Health Organization, 15.
- ¹¹ Stanton, B., J. Clemens, K. Azis, and M. Rahamanr. 1987. "Twenty-Four-Hour Recall, Knowledge-Attitude-Practice Questionnaires and Direct Observations of Sanitary Practices: A Comparative Study." *Bulletin of the World Health Organization*. Geneva: World Health Organization.
- ¹² Akhtaruzzaman, M. N., and S. N. Islam. 2011. *Nutrition, Health and Demographic Survey of Bangladesh—2011: A Preliminary Report*. Bangladesh: University of Dhaka, 19.

NOTES

We're interested in your thoughts. Have you found different evidence of what works through your own programming? If you have thoughts to share, or know of a program that is encouraging the safe disposal of child feces, please contact WSP at worldbankwater@worldbank.org or UNICEF at WASH@unicef.org so that we can integrate your information into future program guidance.

ACKNOWLEDGEMENTS

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