

Pre KAP Survey  
**INFANT YOUNG  
CHILD FEEDING &  
WASH PRACTICES  
AND BEHAVIORS**

**in three districts of Sindh, Pakistan**



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## LIST OF ABBREVIATIONS

AAP	Accelerated Action Plan for Reduction of Stunting and Malnutrition
BHU	Basic Health Unit
BMS	Breast Milk Substitutes
DAP	District Action Plan
FGD	Focus Group Discussion
HH	Household
IYCF	Infant & Young Child Feeding
IEC	Information, Education & Communication
KAP	Knowledge, Attitude, Practice
KII	Key Informant Interview
LHW	Lady Health Worker
MICS	Multiple Indicator Cluster Survey
NNS	National Nutrition Survey
PCO	Population Census Organization
PDHS	Pakistan Demographic & Household Survey
PPHI	People's Primary Health Initiative
PSU	Primary Sampling Unit
RHC	Rural Health Center
SUN	Scaling Up Nutrition
SSU	Secondary Sampling Unit
UC	Union Council
UNICEF	United Nation Children's Fund
WASH	Water & Sanitation Hygiene
WHO	World Health Organization

## EXECUTIVE SUMMARY

According to Pakistan's National Nutrition Survey 2011, one-fourth of the population (24%) is undernourished and two out of every five children are malnourished. The national stunting prevalence among children under five is 43.7%. Sindh, the second largest province of Pakistan with estimated population of 50 million in 2017, has 42% underweight children while the wasting and stunting prevalence is 15.5% and 48% respectively, which is an acute emergency as per WHO guidelines. Moreover, the chronic malnutrition or stunting has deteriorated from 36.3% to 48.9% in the past two decades. According to PDHS 2012-13, nationally more male children (32.5%) under five are underweight than female children (27.1%). Similarly male children are more likely to be wasted (12%) than female children (10%).<sup>1</sup> In Sindh also more male children (43.2%) are moderately underweight than female children (40.7%). This denotes both a chronic problem along with acute ongoing emergency.

The roll out of Reduction in Stunting Programme in Sindh is an opportunity for UNICEF to further contribute, mobilize and advocate with rural communities to adopt, practice and sustain key behaviors, like early initiation of breastfeeding, exclusive breastfeeding, complementary feeding and continue breastfeeding till two years of age for girls and boys. Pre and post Knowledge, Attitude and Practice (KAP) surveys of IYCF (Infant and Young Child Feeding) practices are thus planned in Ghotki, Khairpur and Nausheroferoz to gauge the level of knowledge of women and men in the community regarding early initiation of breastfeeding, exclusive breastfeeding, complementary feeding and continued breastfeeding up to 2 years of age. The current study is the pre KAP survey.

Both quantitative and qualitative methods have been employed for the study. For quantitative survey, a sample size of 900 mothers has been identified using multistage cluster sampling. A detailed questionnaire for assessing knowledge, attitude and practice of IYCF and WASH was developed, translated and pretested. Qualitative component consisted of KIIIs with district and provincial health officials and FGDs with mothers, mothers-in-law, and fathers. After 2 weeks of data collection in the districts, the collected data was analyzed and triangulated to develop results.

Mothers are well aware of the advantages of the breast milk. However this knowledge is not completely translated into practice. Mothers in Ghotki (72%), Khairpur (84%) and Nausheroferoz (77%) stated mother's milk should be given to the newborn within the first hour of birth. In practice, however, 49.5% infants in Ghotki, 48.4% in Khairpur and 52.6% in Nausheroferoz were breastfed within the first hour of birth. Mothers, 9% from Ghotki, 3% from Khairpur and 15% from Nausheroferoz, reported administering pre-lacteals (ghutti, honey, water, zamzam water etc.). The knowledge regarding breastfeeding, importance and early initiation is good among mothers, mothers-in-law and fathers. Fathers expressed their complete support for early initiation and continuation of breastfeeding till two years.

The actual practice of exclusive breastfeeding reported closely correlate with reported knowledge of type and duration recommended in Ghotki (45%) and Khairpur (55%). Although the knowledge is high in Nausheroferoz (92%), only 42% mothers reported practicing exclusive breastfeeding.

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<sup>1</sup> PDHS 2012-13

Female child is exclusively breastfed more in Ghotki (49%) and Khairpur (56%) than male child (40% and 52% respectively), a trend which is reversed in Nausheroferoz (47% boys and 37% girls).

Mothers (98%) of children 0-23 months reported having ever breastfeeding the child. Predominant breastfeeding rate is 17% each in Ghotki and in Khairpur, and 22% in Nausheroferoz. Although majority of mothers stated exclusive breastfeeding to be “nothing but mother’s milk for first six months of age”, FGDs reveal water and other fluids such as *gripe water*, *saunf water* and *qehwa* are frequently not considered “addition” to the breast milk. Mothers, 62% in Ghotki, 69% in Khairpur and 68% in Nausheroferoz, continued breastfeeding their children till one year.

Mixed feeding method of giving both breast milk and bottle feeding is also prevalent along with primarily bottle feeding, owing mainly to cultural consideration of breastfeeding in group or out of home, perceived weakness of mother, giving extra nourishment and ease of administration by any family member. The bottle feeding rate in the three districts increases around 6 months of age which continues till the 18 months and then drops.

In Ghotki, 27% children of 0-6 months of age, 37% of 7-12 months, 28% of 13-18 months and 8% of above 18 months of age are bottle fed. In Khairpur, 27% children of 0-6 months of age, 30% of 7-12 months, 30% of 13-18 months and 14% of above 18 months of age are fed using a bottle. In Nausheroferoz, 17% children of 0-6 months of age, 28% of 7-12 months, 30% of 13-18 months and 26% of above 18 months of age are bottle fed.

Timely introduction of semisolid and soft food is 55% in Khairpur, followed by 50% in Ghotki and 45% in Nausheroferoz. Minimum dietary diversity is worryingly low in the three districts. Only 2.9% children in Ghotki, 2.5% in Khairpur and 3.5% in Nausheroferoz fulfilled the minimum dietary diversity criteria. Tubers and roots are commonly used in meals. Legumes, nuts, fruits and flesh food are less commonly consumed. Minimum meal frequency is low for both breastfed and non-breastfed subgroups. Breastfed children in Khairpur (65%), Ghotki (20%), and Nausheroferoz (26%) received meals at recommended frequency.

Iron rich or iron fortified food consumption is reportedly poor in the three districts (13% in Ghotki, 11% in Khairpur and 17% in Nausheroferoz). Poverty and low purchasing power are cited as main reasons for low meal diversity, and no difference is reported of diet offered to boy and girl child. Female children show a comparatively higher percentage for minimum dietary diversity in Khairpur (3.3%) and Nausheroferoz (4.8%) compared to male children (1.8% in Khairpur and 2.5% in Nausheroferoz); a reverse is noted in Ghotki with minimum dietary diversity being 3.7% for boys and 2% for girls.

Insufficient community based workers, huge LHW uncovered areas, shortage of funds, high burden of malnutrition versus available resources and political pressures are noted as limiting factors by public health officials. The knowledge and implementation status of breastfeeding protection law is notably low.

WASH related indicators are low in the study districts. Less than one-fourth of respondents (23%) in the three districts said piped water is the main source of drinking water in their homes – least in Ghotki (4%) compared to 31.3% in Khairpur and 34.3% in Nausheroferoz. Most of respondents (53%) depend on hand pumps as the main source of drinking water. In Sindh 45% households depend on water motor and 28% on hand pump as the improved source of drinking



water.<sup>2</sup> About half of the respondents said they have a washing station available in their homes. Half of the respondents in the three districts throw child excreta in to garbage – most in Nausheroferoz (59%) than in Ghotki (57%) and Khairpur (33%). Respondents (28%) throw child excreta into street – most in Khairpur (35%), followed by Ghotki (30%) and Nausheroferoz (19%). 22% respondents said they put or rinse child excreta into latrine while 18% put it in open drain.

No significant gender differential is noted for male and female child feeding. However some positive trends have been noted such as provision of iron rich food to the girls, continued breastfeeding at one year for girls and equal or higher percentage of dietary diversity for girl child. Fathers and mothers-in-law also expressed supportive response to optimal IYCF practices. Mothers also shared a very good decision making autonomy for choice of feeding (breastfeeding) where although information is sought from elders but the decision is reported to be made by the mothers (98% of mothers decision autonomy for breastfeeding or not) however it is should be noted that elderly make a significant source of information for mothers, second only to collective health service providers as information source.

It is recommended that knowledge and practice gaps can be bridged by behavior change communication while employing a multi-sector approach with WASH, education, agriculture and other sectors. Uniformity of messages from all cadres is essential. Early initiation of breastfeeding, exclusive breastfeeding and continued breastfeeding need targeted behavior change communication. Feeding practices are critically insufficient for the growth and development requirements. Dietary diversity and meal frequency for both girls and boys need to be prioritized for action. Recipes using locally available and affordable food items need to be developed and shared actively through community based interventions with the mothers. A holistic approach of improved communication, capacity building of health service providers, inter-sectoral coordination, prioritized gender-responsive interventions and research-based food and meal enhancement is pivotal to address the multifaceted issue of IYCF in the study districts.

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<sup>2</sup> PSLM 2014-15

# 1. INTRODUCTION & DESK REVIEW

## 1.1 Introduction and Background

Malnutrition has remained a challenge for Pakistan over the last many years. According to the National Nutrition Survey 2011, 50% of women are suffering from anemia and 15% of women are suffering from energy/caloric deficiency. The prevalence of anemia in pregnant women is 60% which is higher than the national figure.

Underweight children are 31.5% at national level while wasting is 15.1%<sup>3</sup>, which is an acute emergency as per WHO guidelines. In Sindh underweight children are 42% and wasting is 15.5%<sup>4</sup>. The stunting prevalence in the province is 48%.<sup>5</sup> According to PDHS 2012-13, nationally more male children (32.5%) under five are underweight than female children (27.1%). Similarly male children are more likely to be wasted (12%) than female children (10%).<sup>6</sup> In Sindh also more male children (43.2%) are moderately underweight than female children (40.7%).<sup>7</sup>

The under-5 stunting in Pakistan (44%) is third highest in the world – higher in male children (48%) than in female children (42%).<sup>8</sup> Though overall Pakistan has registered 10-point reduction in stunting prevalence from 54.5% in 1990-91 to 44% in 2013, the country has registered 3.3% increase in stunting since 2001.<sup>9</sup> Similarly wasting prevalence came down from 24% in 1986 to 17.2% in 1994 to 12.5% in 1991 before registering increase to 14.2% in 2001 and 14.8% in 2011.<sup>10</sup>

Pakistan's under-five mortality rates 85.5 per 1000 live births (2013).<sup>11</sup> Pakistan's high under 5 mortality and morbidity rates are directly related to malnutrition, lack of access to clean water and inadequate sanitation practices and low immunization rates. According to PDHS 2012-13, only 54% of children age 12-23 months are fully immunized (compared to 47.3% in 2006-2007) with a declining trend in immunization coverage for Sindh (35%). Nationally 56% male children and 51.5% female children have all basic vaccinations.<sup>12</sup>

Breastfeeding remains inadequate in Sindh indicating poor Infant and Young Child Feeding (IYCF) practices. PDHS survey 2012-13 shows 54% newborns in Sindh given something other than breast milk (pre-lacteal feed) during the first three days of life, registering only 1% decrease in comparison to 2006-07 survey. Though 97% of children have been breastfed at some time in Sindh, 20% have been breastfed within one hour and 74% breastfed within one day of birth. The median duration of any breastfeeding in Sindh is 21 months, exclusive breastfeeding is only 1.3 months, and predominant breastfeeding is at 3.9 months.

<sup>3</sup> National Nutrition Survey 2011

<sup>4</sup> Sindh Bureau of Statistics [available at <http://sindhbos.gov.pk/>]

<sup>5</sup> Ibid

<sup>6</sup> PDHS 2012-13

<sup>7</sup> MICS 2014, p26

<sup>8</sup> UNICEF 2015, Stop Stunting, Progress Report 2013-2015, Results for Children in Pakistan

<sup>9</sup> Stunting in Pakistan, A Trends Analysis of Underlying Factors By 2030, Action Against Hunger & IRIS

<sup>10</sup> World Bank, Prevalence of wasting, weight for height (% of children under 5), [available at [http://data.worldbank.org/indicator/SH.STA.WAST.ZS?end=2012&locations=PK&name\\_desc=true&start=1977&view=chart](http://data.worldbank.org/indicator/SH.STA.WAST.ZS?end=2012&locations=PK&name_desc=true&start=1977&view=chart)]

<sup>11</sup> Stunting in Pakistan, A Trends Analysis of Underlying Factors By 2030, Action Against Hunger & IRIS

<sup>12</sup> PDHS 2012-13, p151

This denotes both a chronic long term problem along with acute ongoing emergency. Moreover, contributing factors like household food insecurity (58%), health care practices, literacy rate, poor water and sanitation conditions are also below acceptable levels. Pakistan is the third country after India and Nigeria with high burden of stunting. Stunting and other forms of under nutrition reduce a child's chance of survival through hindering optimal health and growth. Stunting is associated with suboptimal brain development, which is likely to have long-lasting harmful consequences for cognitive ability, school performance, and future earnings. This in turn affects the development potential of nations.

### ***Nutrition Situation in Sindh***

The second most populous and urbanized province (50 million<sup>13</sup>), Sindh is home to 23% of the total population of Pakistan.<sup>14</sup> More than half of its population lives in urban areas.<sup>15</sup> Spread over 40,935 sq. km, the province accounts for 18% of Pakistan's total land area.<sup>16</sup>

Around 60% of the population living in Sindh is ethnic Sindhi, followed by Urdu speaking (21%), according to the 1998 population census.<sup>17</sup> Sindh's population is expected to grow to around 90 million in 2030.<sup>18</sup> The PSLM 2008-09 shows marginal decline in the overall average size of a household from 6.6 to 6.3 between 2004-05 and 2008-09.

According to World Bank, 25.3% of Sindh population lives under the revised poverty line, and it is the most food-deprived province. The 2011 NNS found 72 % of households food insecure, 49.8 % children under five chronically malnourished and/or stunted, and 17.5 % children suffered from acute malnutrition (wasting).

World Bank's Sindh Enhancing Response to Reduce Stunting and Malnutrition document<sup>19</sup> says causes of stunting are multiple, adding international research has particularly highlighted low intrauterine growth and low birth weight (which accounts for 20% of all childhood stunting); inadequate food/nutrient intake; and infectious disease, resulting from poor water, sanitation and hygiene practices, and inadequate provision and uptake of health services. It adds: "Inadequate education, particularly of females leading to harmful maternal and child care practices, has also been demonstrated to have significant negative development impacts due to the effects on family hygiene, food security, and the utilization of health services."

Malnutrition is especially devastating to babies and young children whose brains and bodies depend on good nutrition for their healthy growth and development. The damage done is irreversible and reaches into future, though it is also entirely preventable during the first 1000 days "window of opportunity". The right nutrition during the 1,000 days between a mother's pregnancy and the child's second birthday can save lives and enable children to reach their full potential. IYCF practices are crucially important in nutrition of the child in the most important first 1000 window.

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<sup>13</sup>Sindh Bureau of Statistics. [available at <http://sindhbos.gov.pk/>]

<sup>14</sup> Sindh Sector Plan 2014-18. (2014). Education and Literacy Department, Government of Sindh

<sup>15</sup> Ibid

<sup>16</sup> Ibid

<sup>17</sup> Ibid

<sup>18</sup>Dr Ali, Sajjad, *Policy Analysis of Education in Sindh*, (2011). UNESCO, Pakistan

<sup>19</sup><http://documentos.bancomundial.org/curated/es/728551478864073412/text/ITM00184-P161624-11-11-2016-1478864070885.txt>

## ***Nutrition Interventions***

Under Pakistan's Vision 2025, nutrition has received increased attention. The government has established a secretariat to coordinate and support its scale-up. Pakistan joined the global movement of Scaling-Up-Nutrition (SUN) in 2013.

According to World Bank, budget analysis shows only about 10% of the national health budget is spent on nutrition.<sup>20</sup> Of this amount, 90% is financed by development partners in Pakistan, with nutrition-related activities mainly delivered by NGOs (often contracted directly by the development partners). Development-partner supported activities in Sindh contributing to reduce stunting and malnutrition include: the World Bank-financed Enhanced Nutrition for Mothers and Children; the recently completed EU-funded Women and Children Improved Nutrition Sindh, and the USAID-funded Maternal and Child Nutrition Stunting Reduction (to be implemented by UNICEF and WFP).

With a contribution from DFID, the Pakistan Partnership for Improved Nutrition, a multi-donor trust fund administered by the World Bank, plans to finance key interventions such as sanitation and hygiene interventions in 13 districts and nutrition sensitive agriculture interventions in four districts.

Sindh has adopted an Accelerated Action Plan for Reduction of Stunting and Malnutrition (AAP), according to World Bank.<sup>21</sup> AAP has ambitious goals of reducing stunting from 48% to 30% by 2021 and to 15% by 2026 by increasing and expanding coverage of multi-sectoral interventions proven to reduce stunting in the first five years of life. It comprises objectives and expected outcomes related to addressing the underlying causes (by sectors) of stunting: health, population, sanitation and hygiene, agriculture, social protection, education, and behavioral change<sup>22</sup>.

## ***Infant and Child Mortality in Sindh***

The under-5 mortality rate is the probability for a child to die before reaching the age of five, if subject to current age-specific mortality rates<sup>23</sup>. The neonatal (< 28 days) and infant (< 1 year) mortality rates are important subcomponents within under-5 mortality.<sup>24</sup>

Infant mortality rate in Sindh is 82 per 1000 live births<sup>25</sup>, which is higher than the national infant mortality rate 65 per 1000 live births.<sup>26</sup> Similarly Sindh's under five mortality rate 104 per 1,000 live births<sup>27</sup> is also more than the national level – 81 per 1,000 live births.<sup>28</sup> In Sindh under five mortality rate is higher for boys (110) than girls (98).<sup>29</sup> According to Sindh Bureau

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<sup>20</sup>World Bank (2016). Sindh Enhancing Response to Reduce Stunting and Malnutrition, project document [available at <http://documents.worldbank.org/curated/en/728551478864073412/pdf/ITM00184-P161624-11-11-2016-1478864070885.pdf>]

<sup>21</sup> Ibid

<sup>22</sup> Ibid

<sup>23</sup><http://indicators.report/indicators/i-18/>

<sup>24</sup> Ibid

<sup>25</sup> MICS 2014

<sup>26</sup> World Bank. Mortality Rate, infant (per 1,000 live births), <http://data.worldbank.org/indicator/SP.DYN.IMRT.IN?locations=PK>

<sup>27</sup> MICS 2014

<sup>28</sup> World Bank. Mortality Rate, under-5 (per 1,000 live births), <http://data.worldbank.org/indicator/SH.DYN.MORT?locations=PK>

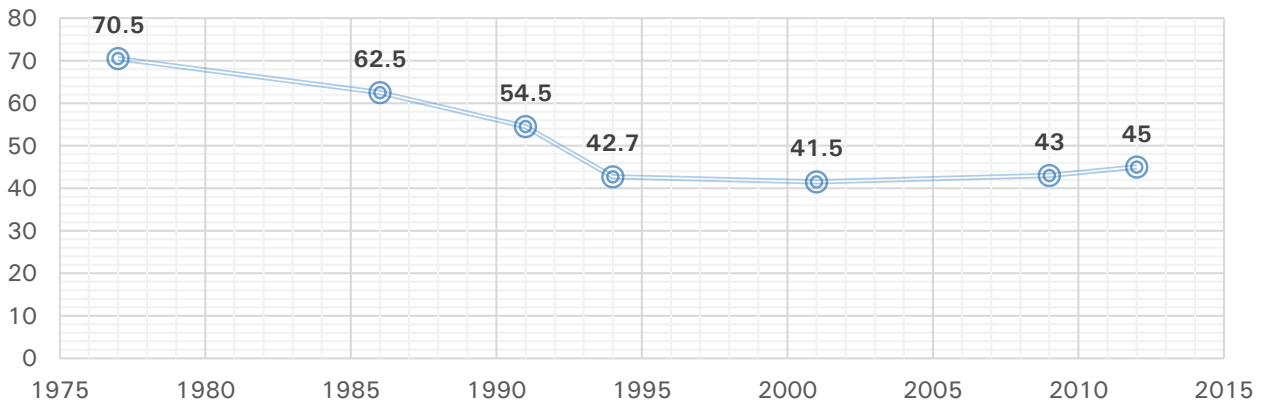
<sup>29</sup> MICS 2014, p19

of Statistics, 42% children under the age of five years are underweight. Nationally 32% children under the age of five years are underweight.<sup>30</sup>

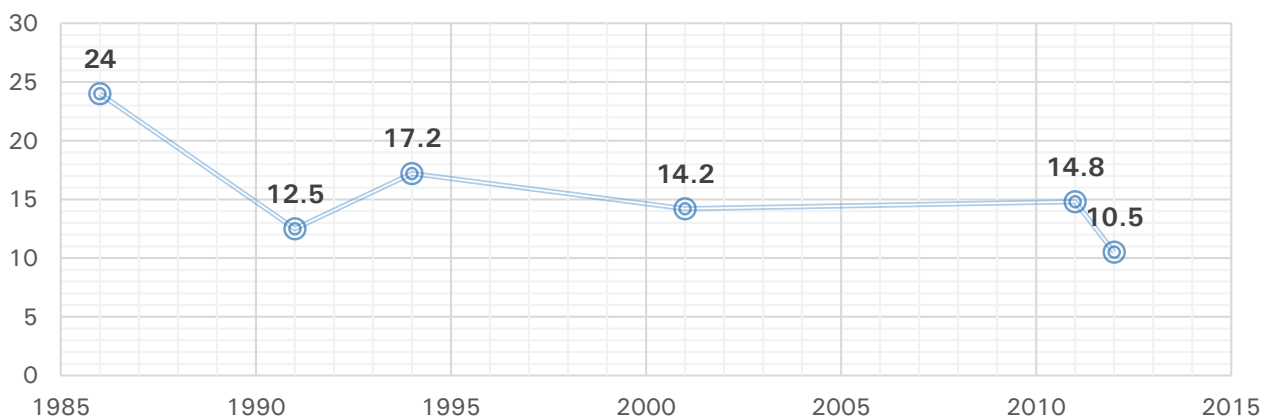
### **SDG Target**

According to the 2011 NNS, Pakistani women and children suffer from some of the highest rates of malnutrition in the world as minimal progress in improving nutritional outcomes of children and mothers has been made over the last four decades. Pakistan has committed itself to SDG 2.2 to end by 2030 all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons. The table below gives the trend of stunting, wasting, and underweight trends in Pakistan.

**Figure 1: Trend Analysis Graph of Stunting**

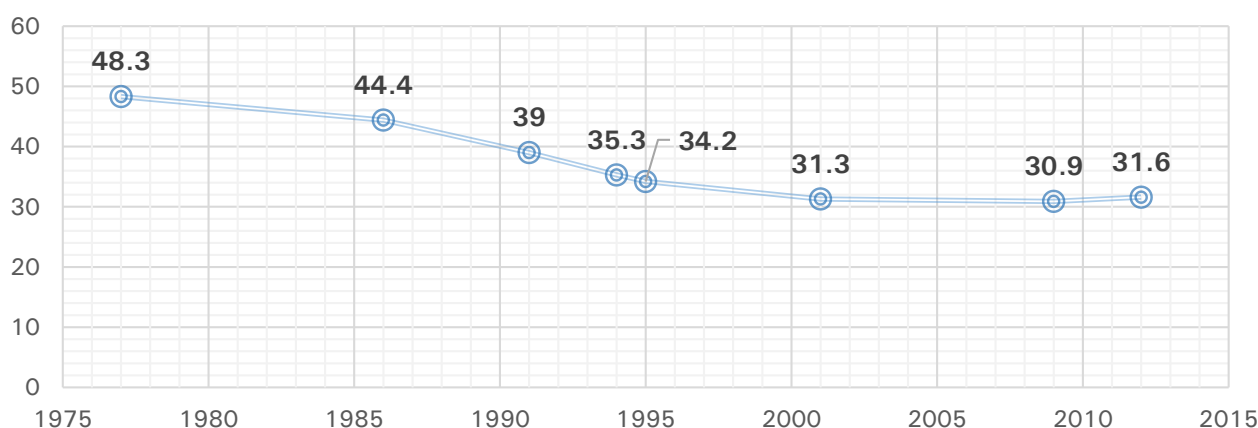


**Figure 2: Trend Analysis Graph of Wasting**



<sup>30</sup>World Bank. Prevalence of underweight, weight for age (% of children under 5)

Figure 3: Trend Analysis Graph of Underweight



Stunting, wasting and underweight prevalence in Pakistan (trends)<sup>31</sup>

Table 1: Stunting, Wasting and Underweight Prevalence in Pakistan

Year	Stunting Prevalence	Year	Wasting Prevalence	Year	Underweight Prevalence
1977	70.5%	1986	24%	1977	48.3%
1986	62.5%	1991	12.5%	1986	44.4%
1991	54.5%	1994	17.2%	1991	39%
1994	42.7%	2001	14.2%	1994	35.3%
2001	41.5%	2011	14.8%	1995	34.2%
2011	43%	2012	10.5%	2001	31.3%
2012	45%			2009	30.9%
Source: <a href="http://data.worldbank.org/indicator/SH.STA.STNT.ZS?locations=PK&amp;name_desc=true">http://data.worldbank.org/indicator/SH.STA.STNT.ZS?locations=PK&amp;name_desc=true</a>				2012	31.6%

## 1.2 Desk Review

### ***IYCF practices in Sindh and Selected Districts***

IYCF focusing on the first 1000 days period of a child are very weak. Breastfeeding practices in the three targeted districts of Sindh remain inadequate, indicating poor IYCF practices. The practice of early initiation of breastfeeding is lower than the provincial level in the three districts. Similarly the practice of giving newborns pre-lacteal feed is also common, which is discouraged because it limits the frequency of suckling by infant and exposes them to the risk of infection.<sup>32</sup>

The Sindh Assembly passed the Sindh Protection and Promotion of Breastfeeding and Child Nutrition Act in 2013, "to ensure safe and adequate nutrition for infants and young children by promoting and protecting breastfeeding".<sup>33</sup> The law has certain explicit restrictions on the

<sup>31</sup>Source: [http://data.worldbank.org/indicator/SH.STA.STNT.ZS?locations=PK&name\\_desc=true](http://data.worldbank.org/indicator/SH.STA.STNT.ZS?locations=PK&name_desc=true)

<sup>32</sup> PDHS 2012-13

<sup>33</sup><http://www.pas.gov.pk/uploads/acts/Sindh%20Act%20No.XVII%20of%202013.pdf>

baby food manufacturers, envisaging penalties up to two years of sentence and Rs500.000 fine for violators. No person, in any form what so ever can promote any designated products except as provided for under the law. Similarly, no person in any manner can assert that any designated product is a substitute for mother's milk, or that it is equivalent to or comparable with or superior to mother's milk.

However its implementation remains weak.<sup>34</sup> It is established that infant mortality could be readily reduced by about 13% with improved breastfeeding practices alone, and 6% with improved complementary feeding.<sup>35</sup> Implementation of the law is hence pivotal for improved IYCF. Reportedly there are certain clauses in the law "with which the baby food manufacturers had not come to terms and they wanted some amendments, although the Act has not yet fully been brought into effect despite around three years have lapsed to its passage by the Sindh Assembly."<sup>36</sup>

### ***Early Initiation of Breastfeeding***

Early initiation of breastfeeding is recommended as beneficial both for mother and child. According to PDHS 2012-13 early suckling stimulates the release of prolactin, which helps in the production of milk, and oxytocin, which is responsible for the ejection of milk. "It also stimulates contraction of uterus after childbirth and reduces postpartum blood loss. The first liquid to come from the breast, known as colostrum, is produced in the first few days after delivery. Colostrum is highly nutritious and contains antibodies that provide natural immunity to the infant. It is recommended that children be fed colostrum immediately after birth (within one hour)."<sup>37</sup>

Early initiation of breastfeeding (within one hour of the birth) is not practiced, especially in Ghotki (14.5%) and Khairpur (13%), which is less than the provincial level (21%)<sup>38</sup>. In Nausheroferoz 20% mothers start breastfeeding within one hour of birth. More than two-thirds of mothers (69%) in Sindh start breastfeeding newborns within the first day of birth<sup>39</sup>. According to MICS 2014, 23% children born to mothers with pre-school or no education are breastfed within one hour of birth in Sindh. It adds this proportion drops for children whose mothers have secondary education but increases for mothers with higher education. One of the goals of the 2008 national IYCF strategy was to increase early initiation of breastfeeding to 60%<sup>40</sup>. However, nationally only 18% children are breastfed within one hour of the birth.<sup>41</sup> The early initiation of breastfeeding in Sindh is slightly higher than the national percentage, but much less than Gilgit Baltistan (60%).<sup>42</sup>

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<sup>34</sup>Dawn, Two years on, Sindh has yet to implement breastfeeding law, Aug 25, 2015, <http://www.dawn.com/news/1202610>

<sup>35</sup> Women's Global Health and Human Rights, (2010). (ed.) Murthy, Padmini & Smith, Clyde Lanford, Jones and Bartlett Publishers

<sup>36</sup> Dawn, Sindh fails to implement breastfeeding law amid formula milk drives, June 11, 2016, <http://www.dawn.com/news/1269976>

<sup>37</sup> PDHS 2012-13

<sup>38</sup> MICS 2014-13

<sup>39</sup> PDHS 2012-13

<sup>40</sup> Ibid

<sup>41</sup> Ibid

<sup>42</sup> Ibid

In Sindh 49% newborns are given customary food item(s) before even the mother's milk.<sup>43</sup> The practice of pre-lacteal feed is higher than the provincial level in Ghotki (61%), and Khairpur (70%). In Nausheroferoz, this practice is higher than the national level (80%).<sup>44</sup>

### ***Exclusive Breastfeeding***

UNICEF and WHO recommend exclusive breastfeeding (no other liquid, solid food, or plain water during the first six months of life<sup>45</sup> as Pakistan's national nutrition strategy also promotes exclusive breastfeeding through 6 months.<sup>46</sup>

The trend of exclusive breastfeeding under six months in the three districts is less than the provincial and national levels. In Ghotki only 13% mothers reported exclusive breastfeeding, followed by 16% in Nausheroferoz and 19% in Khairpur.<sup>47</sup>

Overall exclusive breastfeeding under six months in Sindh has registered increase from 25% in 2003-04 to 29% in 2014<sup>48</sup>. Gender wise there is not much difference in terms of exclusive breastfeeding for 0-5 months children – male 29.3% and female 28.4%.<sup>49</sup> In 2011 NNS reported exclusive breastfeeding under six months in Sindh at 23%. Nationally the 2008 IYCF strategy aimed to increase the percentage of infants less than six months old who are exclusively breastfed from 37% to 55%.<sup>50</sup> However the PDHS 2012-13 reports nationally there has been no improvement in increasing the number of infants less than six months who are exclusively breastfed (38%).

### ***Predominant Breastfeeding***

The trend of predominant breastfeeding in the three districts is less than the provincial level, which is 56%, according to MICS 2014. It is 51% in Ghotki 46% in Khairpur and 39% in Nausheroferoz. Nationally the predominant breastfeeding (0-5 months) is 55%. In Sindh female children 0-5 months are predominantly breastfed more (58.1%) than boys (54.3%).<sup>51</sup>

### ***Continued breastfeeding till one year***

Nationwide the practice of continued breastfeeding till one year, according to PDHS 2012-13, is 82%. In Sindh the practice has registered a decrease – from 85% in 2003<sup>52</sup> to 77% in 2014<sup>53</sup>. Slightly more male children (77.5%) are breastfed till one year than female children (75.9%).<sup>54</sup> Of the three selected districts this practice is slightly higher than the provincial level in Ghotki (79%), Khairpur (78%) but lower in Nausheroferoz (72%)<sup>55</sup>. According to NNS 2011, 84% mothers in Sindh breastfeed their children between the ages of 12-15 months.

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<sup>43</sup> MICS 2014

<sup>44</sup> Ibid

<sup>45</sup> PDHS 2012-13

<sup>46</sup> Ibid

<sup>47</sup> MICS 2014

<sup>48</sup> Ibid

<sup>49</sup> Ibid

<sup>50</sup> PDHS 2012-2013

<sup>51</sup> MICS 2014, p32

<sup>52</sup> MICS2003-04

<sup>53</sup> MICS 2014

<sup>54</sup> Ibid

<sup>55</sup> Ibid



### ***Breastfeeding till Two Years***

Nationally 56% mothers breastfeed their children up to the age of two years<sup>56</sup>. In Sindh the practice has registered a decrease from 56% in 2003<sup>57</sup> to 49% in 2014<sup>58</sup>. More female children (51.5%) are breastfed than male children (46.4%) up to the age of two years in the province.<sup>59</sup> In the three selected districts, this practice is high in Nausheroferoz (71%) but lower in Ghotki (47%) and Khairpur (44%) than the provincial level.

### ***Median Duration of Any Breastfeeding***

Since 2006-07 there has been no change in the median duration of any breastfeeding in Pakistan. From 18.9 months in 2006-07, it stood at 19 months.<sup>60</sup> Exclusive breastfeeding median is 0.7 months nationally.<sup>61</sup> Similarly the median duration of predominant breastfeeding has remained unchanged in Pakistan from 2006-07 to 2102-13 at 2.7 months. In Sindh the median duration for any breastfeeding for male is 21 months and for female 21.6 months.<sup>62</sup> However the median duration for exclusive breastfeeding in Sindh for male is higher (0.9 months) than for female (0.7 months).<sup>63</sup>

Overall in Sindh the median duration for any breastfeeding is 21.3 months, higher than the national level, according to MICS 2014. However exclusive breastfeeding median is 0.7 months and predominant breastfeeding is 3.3 months<sup>64</sup> in Sindh.

For Ghotki the median duration for any breastfeeding is 21.9 months, higher than the national and provincial levels.<sup>65</sup> However the district's median duration for exclusive and predominant breastfeeding is lower than the national and provincial levels – 5.5 and 17 months.<sup>66</sup>

In Khairpur and Nausheroferoz also, the median duration for any breastfeeding is higher than the national and provincial levels (20.9 and 23.2 months) but lower for exclusive and predominant breastfeeding (0.5 and 0.6 months and 1.6 and 1.9 months respectively)<sup>67</sup>. It shows the practice of exclusive breastfeeding is lower in the three districts.

### ***Age-Appropriate Breastfeeding***

Age-appropriate breastfeeding for 0-5 and 6-23 months children in Sindh is 29% and 61%. It is slightly higher for female children 6-23 months than male children – 63.4% and 59%<sup>68</sup> - and almost same for children 0-5 months – male 29.3% and female 28.4%.<sup>69</sup> Age-appropriate

<sup>56</sup> PDHS 2012-13

<sup>57</sup> MICS2003-04

<sup>58</sup> MICS 2014

<sup>59</sup> Ibid

<sup>60</sup> PDHS 2012-13

<sup>61</sup> Ibid

<sup>62</sup> MICS 2014, p34

<sup>63</sup> Ibid, p34

<sup>64</sup> Ibid

<sup>65</sup> Ibid

<sup>66</sup> Ibid

<sup>67</sup> Ibid

<sup>68</sup> Ibid

<sup>69</sup> Ibid

breastfeeding for 0-5 months and 6-23 months is (13% & 60%) in Ghotki and (19% & 59%)<sup>70</sup> Khairpur. In Nausheroferoz however the age appropriate breastfeeding for 6-23 months is higher at 69% but lower for 0-5 months at 16%.<sup>71</sup>

Contrary to WHO recommendations, according to PDHS 2012-13, the practice of feeding children with solid or semisolid foods starts early in life in Pakistan. Nationally 75% newborns are given something other than breastfeed (pre-lacteal) during the first three days.<sup>72</sup> Even the infants (0-1 month) are given infant formula milk (10%), other milk (17%) and other liquids (4%).<sup>73</sup>

### ***Bottle Feeding***

The use of bottle feeding has gone up in Sindh from 28% in 2003-04<sup>74</sup> to 37% in 2014<sup>75</sup> - more for male children (38.4%) than for female children (35.6%).<sup>76</sup> However the use of bottle feeding for infants 0-23 months is higher nationally at 42%.<sup>77</sup> In Khairpur and Nausheroferoz the use of bottle feeding is higher than the national level at 51% and 48%.<sup>78</sup> The use of bottle feeding in Ghotki is lower than the national level and equal to the provincial level – 37%. According to MICS 2014, in Sindh children in urban areas are more likely (46.2%) to be fed with a bottle than in rural areas (29.2%).

### ***Minimum Dietary Diversity***

Minimum dietary diversity (foods from at least 4 food groups) for children (6-23 months) in Sindh is 14.2%, while minimum meal frequency is 56%. It indicates the need to focus on improving diet diversity and nutrient.<sup>79</sup> Minimum dietary diversity for female children (11.4%) currently on breastfeeding is slightly higher than for male children (10.1%).<sup>80</sup> Minimum meal frequency of children currently being breastfed is 48.5% - more for female children (50%) than male children (46.9%) while minimum acceptable diet is 9.3% - slightly more for female children (9.9%) than for male children (8.6%).<sup>81</sup>

The minimum dietary diversity in the three selected districts is lower than the provincial level – 8% in Ghotki, 11% in Khairpur, and 12% in Nausheroferoz.<sup>82</sup> However the minimum meal frequency is higher than the provincial level in Ghotki (64%) and Nausheroferoz (76%) but lower in Khairpur (45%).

### ***WASH***

Overall 90.5% population in Sindh is using an improved source of drinking water – 89.7% in urban and 91.3% in rural areas, according to MICS 2014. Among improved source of drinking water, hand pump (drilled well) is main source in Sindh (40.9%), followed by piped water into

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<sup>70</sup> Ibid

<sup>71</sup> Ibid

<sup>72</sup> PDHS 2012-13

<sup>73</sup> Ibid

<sup>74</sup> MICS 2003-04

<sup>75</sup> MICS 2014

<sup>76</sup> Ibid

<sup>77</sup> PDHS 2012-13

<sup>78</sup> MICS 2014

<sup>79</sup> MICS 2014

<sup>80</sup> Ibid, p37

<sup>81</sup> Ibid, p37

<sup>82</sup> Ibid

dwelling (31%).<sup>83</sup> Majority of the population in Sindh (76.9%) is not using any method for water treatment.<sup>84</sup> However 13.3% households boil water while 9.7% strain water through a cloth.<sup>85</sup>

However in Ghotki, Khairpur and Nausheroferoz, 99%, 97.6% and 98.9% households are not using any method for water treatment.<sup>86</sup>

MICS 2014 defines improved sanitation facility as one that hygienically separates human excreta from human contact. It adds improved sanitation facilities for excreta disposal include flush or pour flush to a piped sewer system, septic tank, or pit latrine; ventilated improved pit latrine, pit latrine with slab, and use of a composting toilet.

In Sindh 20.2% household population goes out for open defecation.<sup>87</sup> In Ghotki, Khairpur and Nausheroferoz more household population goes out for open defecation – 39%, 34.9% and 26% respectively.<sup>88</sup>

The main place of disposal of 0-2 year's old child's feces is garbage in Sindh (31.1%), according to MICS 2014. This pattern is also followed in Ghotki (31.5%), and Khairpur (36.5%). In Nausheroferoz, however, the main place of disposal is rinsed into toilet or latrine (27.7%).<sup>89</sup>

In Sindh 80.7% households have place for hand washing – more so in Ghotki (89.1%), Khairpur (97.3%) and 93.8%.<sup>90</sup>

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<sup>83</sup> MICS 2014

<sup>84</sup> Ibid

<sup>85</sup> Ibid

<sup>86</sup> Ibid

<sup>87</sup> Ibid

<sup>88</sup> Ibid

<sup>89</sup> Ibid

<sup>90</sup> Ibid

## 2.METHODOLOGY

### 2.1 Research Purpose

The purpose of the assignment is to conduct Knowledge, Attitude, and Practice (KAP) survey of IYCF baseline in three UNICEF intervention districts (Khairpur, Ghotki and Nausheroferoz). The data for this study was collected from January 21-28, 2017. In addition, the study captures basic information related to nutrition sensitive WASH sector. UNICEF is implementing the Reduction in Stunting Programme in Sindh to further contribute, mobilize and advocate with rural communities to adopt, practice and sustain key behaviors like early initiation of breastfeeding, exclusive breastfeeding, complementary feeding and continue breastfeeding till two-year age. The baseline KAP has been conducted to provide information to establish benchmarks for the program implementation. The pre and post KAP surveys will help evaluate and compare IYCF practices in target districts. The study highlights dimensions of knowledge, attitude and practices of local community towards adopting healthy breastfeeding and child feeding practices.

#### ***Specific objectives:***

- To obtain qualitative and quantitative data on infant and young child feeding practices using the WHO IYCF indicators;
- To assess the consumption of the different types of food for children aged from 6-23 months within the 24 hours prior to the survey, and hence estimate the food diversity within the last 24 hours;
- To assess the influencing factors/ variables related to IYCF practices;
- To make program and communication recommendations based on pre KAP findings;
- To evaluate and compare the improvement in IYCF practices through pre and post KAP survey.

#### ***Research Design***

A comprehensive secondary research to examine the trends of infant and young child breastfeeding practices and behaviors in national, provincial and district context has been undertaken. WHO approved criteria for IYCF sub-domains and IYCF indicators are used. Both qualitative and quantitative approaches have been used to collect data.

#### ***2.2.1. Quantitative Sample Design for Pre Intervention Survey***

- **Sample Universe:** All households with at least one child up to two years of age from the selected union councils of programme districts
- **Sampling Frame:** Sampling frame developed by Population Census Organization (PCO)
- **Sample Size calculation:** The calculated sample size is 300 eligible mothers (who have at least one child up to two years of age) in each selected district. This estimate is based on 95% confidence level, 5% margin of error, and 21% prevalence consideration to rationalize the district level calculation, 15% design effect, and 3% attrition/mortality rate. A total of 900 mothers have been interviewed in the pre-intervention survey. In case of the mother having more than one child less than two years of age, both the children are included in the study.
- **Multistage Stratified Cluster Sampling:** Based upon the calculation of sample size of 900, a multistage stratified cluster sampling design is utilized. At the first stage, villages in rural areas as Primary Sampling Units (PSUs) are selected. A total of 45 PSUs are thus selected. The lists of eligible households in selected PSUs who have at least one child up to 2 years' age are collected from local Lady Health Workers (LHWs). At second stage, using these

lists, 20 households [Secondary Sampling Unit (SSU)] are selected through Systematic Random Sampling. And at the third stage, eligible mothers from each selected household are selected. In case of more than one mothers in the household, respondents are selected through lottery.

**Table 2: Sample Size for Pre-Intervention Survey**

District	Per PSU HH Sample Size	Total PSUs	Total HH Sample Size
Khairpur	20	15	300
Nausheroferoz	20	15	300
Ghotki	20	15	300
<b>Total</b>		<b>45</b>	<b>900</b>

### 2.2.2. Qualitative Sample Design for Pre Intervention Survey

Three Focus Group Discussions (FGDs) each have been held in the three districts to explore the factors influencing IYCF practices with groups of mothers, mothers-in-law, and fathers. Overall a total of 9 FGDs have been conducted.

Key Informant Interviews (KIIs) with the provincial and district level key health and nutrition officials have been conducted to include the perspective of IYCF service providers and factors influencing service delivery.

**Table3: Qualitative Pre-Intervention Survey**

District	FGD (1 each with mothers, mothers in law & fathers)	KII
Khairpur	3	2
Nausheroferoz	3	2
Ghotki	3	2
Provincial (Hyderabad, Karachi)		1
<b>Total</b>	<b>9</b>	<b>7</b>

### 2.2.3. WHO IYCF Indicators

WHO approved IYCF indicators have been used for the study.<sup>91</sup> Further gender desegregation for individual district has also been presented.

#### Core indicators

Early initiation of breastfeeding	Exclusive breastfeeding under 6 months	Continued breastfeeding at 1 year	Introduction of solid, semi-solid or soft foods
Minimum dietary diversity	Minimum meal frequency	Minimum acceptable diet	Consumption of iron-rich or iron-fortified foods

<sup>91</sup> Indicators for assessing infant & young child feeding practices, Part 3- Country Profile; WHO/2010

### ***Additional indicators***

- Children ever breastfed
- Continued breastfeeding at 2 years
- Predominant breastfeeding under 6 months
- Bottle feeding

**Early initiation of breastfeeding:** Proportion of children born who were put to the breast within one hour of birth.

**Exclusive breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are fed exclusively with breast milk. Any child who was given ORS and vitamin and/or mineral supplements was not excluded from the exclusive breastfeeding category.

$$\frac{\text{Infants 0–5 months of age who received only breast milk}}{\text{Infants 0–5 months of age}}$$

**Predominant breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are predominantly breastfed.

$$\frac{\text{Infants 0–5 months of age who received breast milk as the predominant source of}}{\text{Infants 0–5 months of age}} \text{ nourishment}$$

**Continued breastfeeding at 1 year:** Proportion of children 12–15 months of age who are fed breast milk

$$\frac{\text{Children 12–15 months of age who are fed breast milk}}{\text{Children 12–15 months of age}}$$

**Continued breastfeeding at 2 years:** Proportion of children 20–23 months of age who are fed breast milk

$$\frac{\text{Children 20–23 months of age who received breast milk during the previous day}}{\text{Children 20–23 months of age}}$$

**Introduction of solid, semi-solid or soft foods:** Proportion of infants 6–8 months of age who receive solid, semi-solid or soft foods

$$\frac{\text{Infants 6–8 months of age who receive solid, semi-solid or soft foods}}{\text{Children 6–8 months of age}}$$

**Minimum dietary diversity:** Proportion of children 6–23 months of age who receive foods from 4 or more food groups.

$$\frac{\text{Children 6–23 months of age who received foods from } \geq 4 \text{ food groups during the}}{\text{Children 6–23 months of age}} \text{ previous day}$$

**Minimum meal frequency:** Proportion of breastfed and non-breastfed children 6–23 months of age, who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more. The sample universe for this indicator is last born children 6–23 months of age living with their mothers.

This indicator is calculated from the following two fractions:

- For breastfed children, minimum is defined as 2 times for infants 6–8 months and 3 times for children 9–23 months
- For non-breastfed children, minimum is defined as 4 times for children 6–23 months.

**Children ever breastfed:** Proportion of children born in the last 24 months who were ever breastfed. WHO and UNICEF recommend breastfeeding up to 2 years or beyond. The sample universe for this indicator includes last born children 20–23 months of age living with their mothers.

**Bottle feeding:** Proportion of children 0–23 months of age who are fed with a bottle in last 24 hrs.

$$\frac{\text{Children 0–23 months of age who were fed with a bottle during the previous day}}{\text{Children 0–23 months of age}}$$

*The previously used indicator ‘Timely complementary feeding rate’ was a combination of two key practices, i.e. continued breastfeeding and consumption of solid, semi-solid or soft foods. It was therefore difficult to interpret. In the current set of indicators, ‘Introduction of solid, semi-solid or soft foods’ and ‘Continued breastfeeding at 1 year’ and ‘Continued breastfeeding at 2 years’ are reported as separate indicators.*

#### **2.2.4 Data collection and Analysis**

Research teams in the three districts collected data from the selected UCs. KAP with 24-hour recall for practice was done at community level with female data collectors and field researchers. Data was checked daily and 10% random verification was done. ODK kits have been used for data collected. After verification and cleaning, the data was sent daily from field to the main office. Data was analyzed on SPSS and results have been triangulated for analysis. FGDs were conducted with mothers group (mothers with children under 2 years of age), mother-in-laws group, and a fathers group (fathers with children under 2 years of age) in each of target districts. FGD guidelines were developed for the respondent groups and conducted in line with ethical qualitative research principles. A total of 9 FGDs were conducted, 3 in each district. KIs were conducted with the district and provincial health managers. Primary data findings were correlated with visual observations and recordings (with permission). Qualitative data recording transcribed in English. The qualitative data analysis was carried out using the Pell Institute Evaluation Toolkit – Qualitative Data Analysis Approach.<sup>92</sup>

#### **2.2.5 Field Challenges and Limitations**

- KIs were scheduled after confirmation from district and provincial health managers, however unavailability or preoccupation of key officials after prior confirmation, remained a limiting factor.
- The responses against KIs are limited to the information shared by District and Provincial Health Managers which have limited the scope of study to connect the information received through KIs with ground realities as learned through community responses, as community level service providers could not be interviewed.
- As the KIs were conducted on the basis of designation, none of the officials at the assigned positions were women.
- The lists of the eligible respondents are obtained through the local LHW, which limits the study findings.

<sup>92</sup><http://toolkit.pellinstitute.org/evaluation-guide/analyze/analyze-qualitative-data>

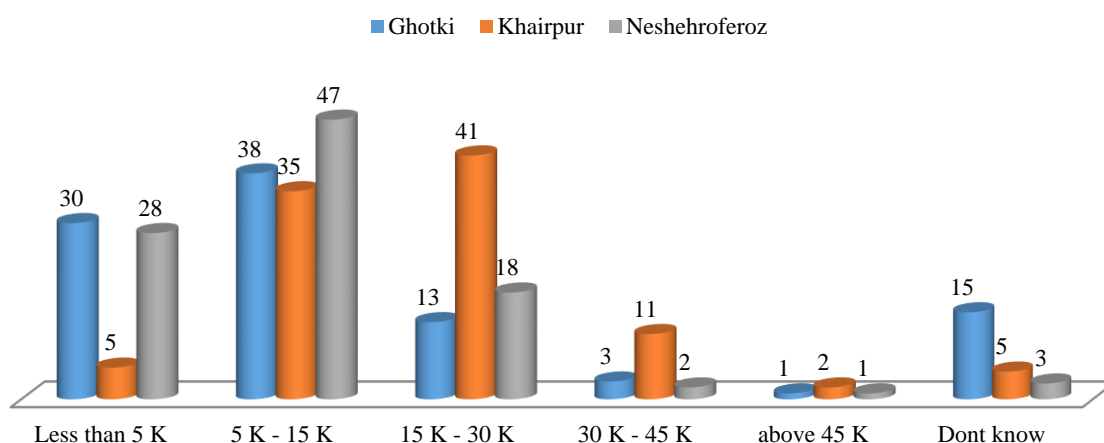
### 3.RESULTS& DISCUSSION

The findings have been arranged in sub domains of IYCF with additional sections included for WASH correlation and public officials’ (DHO, District Nutrition Officer etc.) and IYCF service provision perspective with factors influencing service delivery. The knowledge and attitude regarding IYCF are studied with practice results made available from 24 hours recall component of the survey. Results of quantitative and qualitative components are triangulated and discussed in respective sub domains.

#### 3.1 Respondent & Household profile

The overall household size in the three districts is 7, which is slightly higher than the national household size of 6.2.<sup>93</sup> Khairpur has the highest household size of 8 among the three districts. Overall the households are poor with 21% respondents reported earning less than Rs5000 a month. Cumulatively 51% of the respondents reported earning between Rs5000-Rs20000 a month. On the other hand, less than 2% respondents said their households’ monthly income is more than Rs45000.

Figure 4: Household average monthly income (%)



Most of the mother respondents (57%) in the three districts are between 20-29 years age bracket, followed by 34% between 30-39 years. Less than 10% respondents are either less than 20 years or more than 40 years of age.

Table 4: Age of Respondents

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Less Than 20 Years	8	2.7	15	5.0	7	2.3	30	3.3
20 to 29 Years	168	56.0	158	52.7	186	62.0	512	56.9
30 to 39 Years	104	34.7	113	37.7	89	29.7	306	34.0
40 and Above	20	6.7	14	4.7	18	6.0	52	5.8
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

<sup>93</sup>PSLM 2014-15



**Table 5: Marital Status (respondents)**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Married	299	99.7	299	99.7	298	99.3	896	99.6
Divorced	0	0.0	1	.3	0	0.0	1	.1
Widow	0	0.0	0	0.0	1	.3	1	.1
Separated	1	.3	0	0.0	1	.3	2	.2
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

More than two-thirds of the respondents (68%) are not literate, most of them in Ghotki (83%), followed by 71% in Nausheroferoz and 50% in Khairpur. Only 13% have completed education up to primary level. (Table 5)

More than half of the respondents have been married between 18 to 21 years of age. Nearly one-third of the respondents (31%) have been married before the age of 18 years. Less than 1% respondents have been married after 30 years of age. In 2014 the Sindh Assembly has passed the Child Marriage Restraint bill, prohibiting marriage of children below 18 years.<sup>94</sup> However 9% females are married before the age of 15 years.<sup>95</sup>

**Table 6: Mothers' Education**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Illiterate	248	82.7	151	50.3	213	71.0	612	68.0
Primary	25	8.3	47	15.7	48	16.0	120	13.3
Middle	2	.7	28	9.3	14	4.7	44	4.9
Metric	12	4.0	31	10.3	23	7.7	66	7.3
FA/Fsc	8	2.7	25	8.3	2	.7	35	3.9
BA/BSC	2	.7	11	3.7	0	0.0	13	1.4
Masters	0	0.0	5	1.7	0	0.0	5	.6
PhD	0	0.0	2	.7	0	0.0	2	.2
Others	3	1.0	0	0.0	0	0.0	3	.3
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

A little more than half of the respondents (52%) were more than 14 and less than 20 years of age when they became mother. However 41% were between 21-25 years old at the time of first delivery. One-fourth of the respondents (26%) said men in their homes work as seasonal workers while 20% said they are self-employed while 17% are farmers and 14% are doing private jobs. Less than 10% are in government jobs. The jobless are less than 5%.

<sup>94</sup>Sindh Assembly passes bill prohibiting child marriages, Dawn, April 28, 2014,

<https://www.dawn.com/news/1102840>

<sup>95</sup>MICS 2014

Most of the respondents (35%) in the three districts have children more than 12 months old, followed by 27.1% with 7 to 12 months old children. Respondents (14%) have infants 0-2 months old. No significant difference was found among the three districts.

### 3.1 Infant & Young Child Feeding Situation

#### 3.1.1 Initiation of Breastfeeding

Breast milk is identified as the best source of nourishment for the newborn by 92% mothers in Ghotki, 91% in Khairpur and 88% in Nausheroferoz. Similarly 72%, 84%, and 77% mothers in Ghotki, Khairpur and Nausheroferoz respectively stated mother's milk should be given to the newborn within the first hour of birth. However a gap is noted in knowledge and practice, as 49.5 % children in Ghotki, 48.4% in Khairpur and 52.6% in Nausheroferoz were breastfed within the first hour of birth. The early initiation of breastfeeding is higher than the reported district (Ghotki 14.5%, Khairpur 13%, and Nausheroferoz (20%) and provincial level (21%).<sup>96</sup> Gender wise there is not much difference in initiating breastfeeding in the first hour after the birth.

**Table 7: Initiation of Breastfeeding (within first hour)**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	150	49.5	151	48.4	164	52.6	465	50.2
No	153	50.5	161	51.6	148	47.4	462	49.8
<b>Total</b>	<b>303</b>	<b>100.0</b>	<b>312</b>	<b>100.0</b>	<b>312</b>	<b>100.0</b>	<b>927</b>	<b>100.0</b>

**Table 8: Initiation of Breastfeeding (within first hour) by Gender Disaggregation**

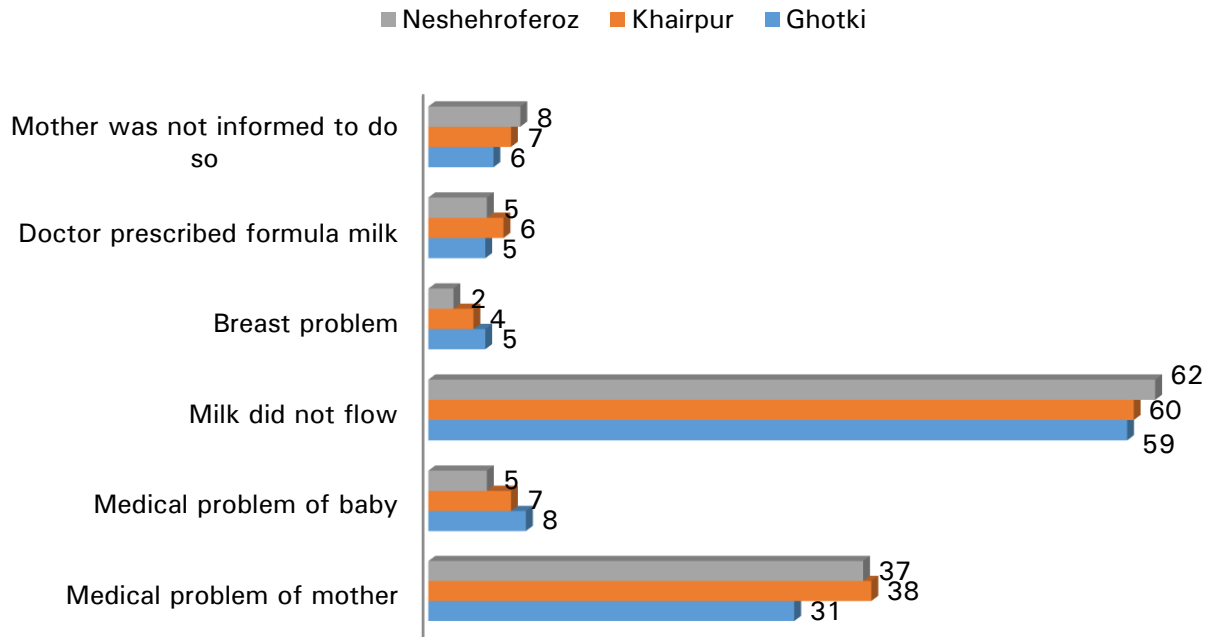
	Ghotki				Khairpur				Nausheroferoz				Total			
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Yes	78	50.6	72	48.3	81	49.1	70	47.6	85	52.8	78	51.7	244	50.8	220	49.2
No	76	49.4	77	51.7	84	50.9	77	52.4	76	47.2	73	48.3	236	49.2	227	50.8
<b>Total</b>	<b>154</b>	<b>100</b>	<b>149</b>	<b>100</b>	<b>165</b>	<b>100</b>	<b>147</b>	<b>100</b>	<b>161</b>	<b>100</b>	<b>151</b>	<b>100</b>	<b>480</b>	<b>100</b>	<b>447</b>	<b>100</b>

No milk production and mothers' condition (fatigue, change of bedding, clothes etc.) right after delivery are the main reasons for the initiation of breastfeeding later than first hour. However, 86% respondents in both Ghotki and Nausheroferoz and 97% in Khairpur stated initiation should not be delayed beyond five hours. More than 90% mothers in the three districts stated breastfeeding should be started within the first 24 hours, which is higher than provincial reported breastfeeding initiation within the first day of birth.<sup>97</sup>

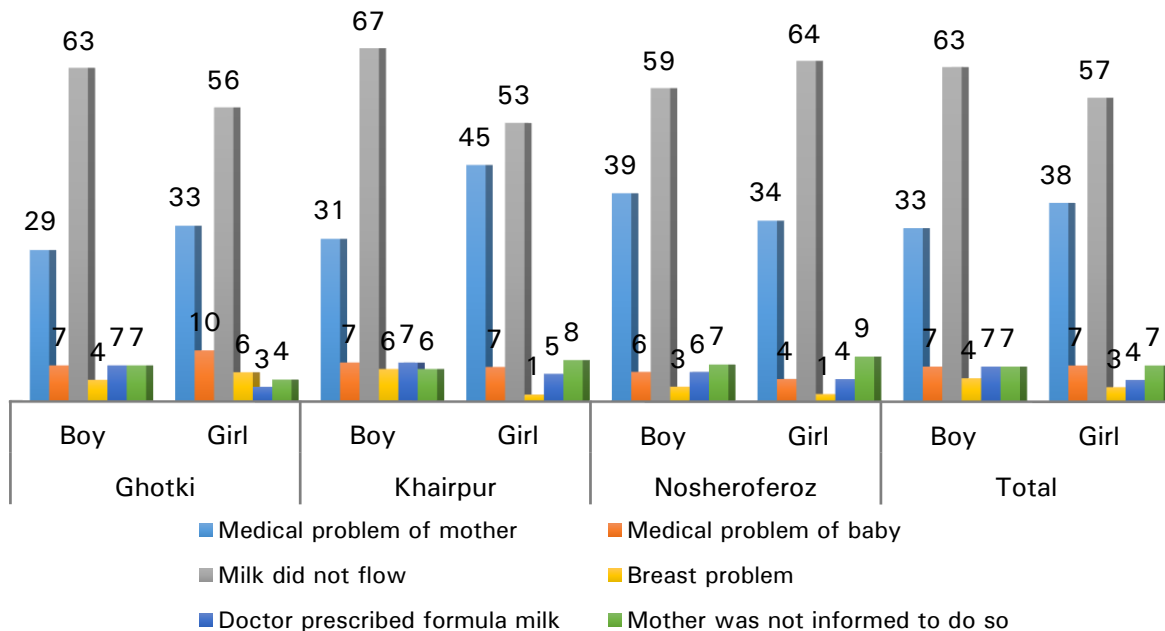
<sup>96</sup> MICS 2014-13

<sup>97</sup> PDHS 2012-13

**Figure 5: Reasons for Later than One Hour Initiation of Breastfeeding (%)**



**Figure 6: Reasons for Later than One Hour Initiation of Breastfeeding (%) by Gender Disaggregation**



When the reasons for delay were further probed, it was found that the time span of first hour is not clearly known. Any delay is usually not planned but occurs due to routine cultural, hygiene and social practices. The most frequent response to initiating breastfeeding was “as early as we normally can”. This view, mentioned by mothers, fathers, and mothers-in-law, was found across the three districts.

*After 1 hour and during that hour we take care of mother and then afterwards give baby to mother for feeding (a mother-in-law from Ghotki).*

*Most of these women start feeding within an hour but sometimes some problem occur in baby (respiratory issue) or mother is not feeling well after delivery. Therefore breastfeeding is delayed till one or two hours but usually it is within one-two hours (a mother from Ghotki).*

Mothers undergoing medical procedures or with prolonged/complicated delivery tend to have delayed initiation. Fathers also shared that caesarian section can lead to delayed initiation.

*When my son was born through operation, we could not give him mother milk for 1 whole day (a father from Khairpur).*

Respondents (mothers, fathers, and mothers-in-law) had adequate knowledge regarding the advantage of mothers' milk.

*It increases love between mother and child (another from Ghotki).*

*It protects from diseases; it is full of nutrition (a father from Nausheroferoz).*

*It increases immunity against various diseases like fits and respiratory problems (a mother from Nausheroferoz).*

The practice of giving pre-lacteal is quite common in Sindh. Pre-lacteals are not considered "food source" by mothers. Majority of FGDs' respondents stated milk is the food source for the newborn and pre-lacteals are customarily given food items. Mothers expressed a good knowledge regarding breast milk as best first feed. Mothers, 84% in Ghotki, 86% in Khairpur and 67% in Nausheroferoz respectively stated breast milk should be the first intake of the newborn, whereas only 9% in Ghotki, 3% in Khairpur and 15% in Nausheroferoz opted for pre-lacteals (ghutti, honey, water, zamzam water...etc.).

The most common pre-lacteal administered is honey. Preference for animal milk as first intake for the newborn is high in Nausheroferoz (15%) compared to Ghotki (5%) and Khairpur (1%). Social norm and custom are the primary reasons cited for giving pre-lacteals (64% in Ghotki, 86% in Khairpur and 76% in Nausheroferoz); it is also thought to clean the gut of the child and facilitate bowel movement. Mother-in-law's advice is stated as reason for giving pre-lacteal by 18% mothers in Ghotki, 12% in Khairpur, and 13% in Nausheroferoz.

Again a knowledge-practice gap is prominent. Although smaller percentage of women stated pre-lacteals as the first intake for the newborn, in practice, administering pre-lacteal is higher. The figure below shows the pre-lacteal administration in terms of knowledge and practiced by mothers. The study findings of pre-lacteal administration are lower than provincial (49%) and district levels (Ghotki 61%, Khairpur 70%, and Nausheroferoz (80%). Gender desegregated graphs given below show no remarkable preference on the basis of child sex.

Most of the FGD respondents (mothers, fathers, and mothers-in-laws) reported to have given either honey, ghutti, gripe water and fresh milk to a child. For them, milk is the food source for the newborn and pre-lacteals are customarily given food items. No specific differential is noted in responses of mothers, fathers, and mothers-in-law. Fathers also expressed that the practice of administering pre-lacteals is beneficial to the baby.

*If a child is born in winter, we give cardamom and honey paste to keep the child warm (a mother-in-law from Nausheroferoz).*

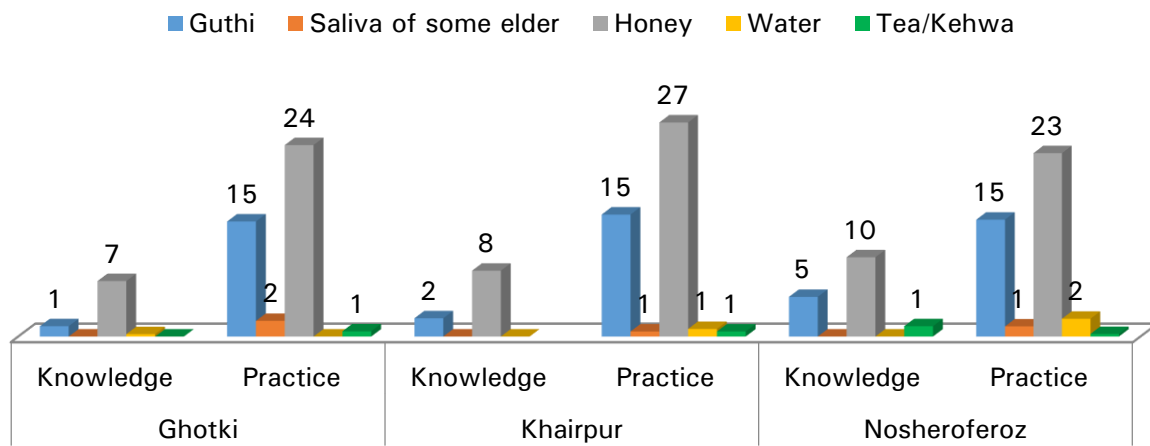
*Mothers' milk is very good but these days there is trend of medicines and gripe water (a father from Ghotki).*

*Generally it is so that woman has breast milk after three days (of childbirth) so goat milk is given (a mother from Khairpur).*

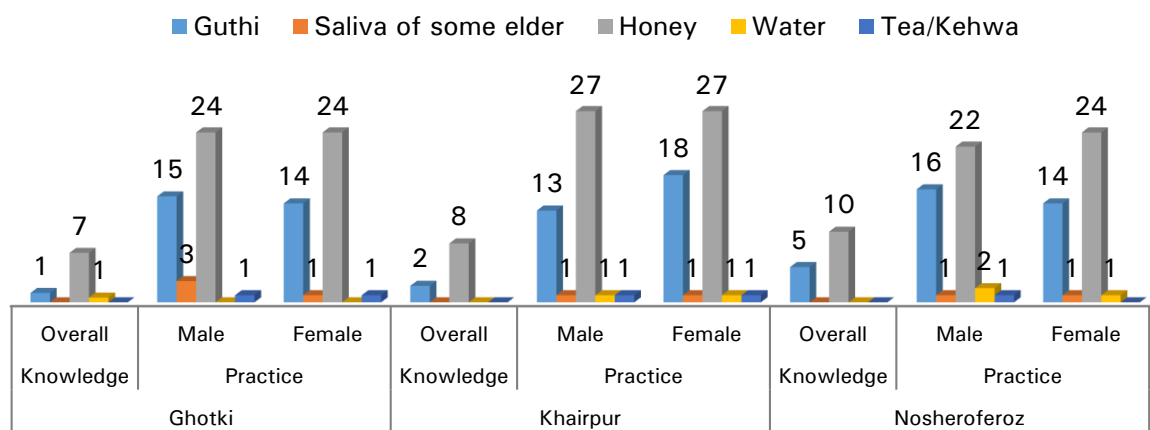
*We give ghutti when baby stomach is upset (a father from Nausheroferoz).*

*We give honey to newborn (a father from Ghotki).*

**Figure 7: Pre-lacteal Administration (%)**



**Figure 8: Pre-lacteal Administration (%) by Gender Disaggregation**



Colostrum is the yellowish thick milk produced in the initial few days. The baby receives colostrum for the first feeds. Colostrum is rich in immunologically active cells, antibodies and other protective proteins. It serves as the baby's first immunization and protects against many infections. It helps to regulate the baby's own developing immune system.

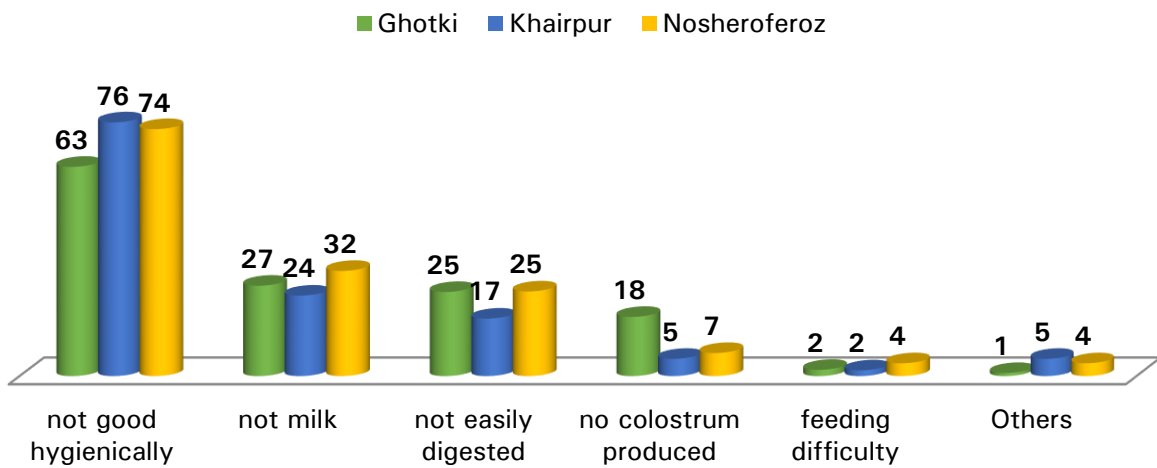
Almost two-thirds of respondents, 72% in Ghotki, 67% in Khairpur and 63% in Nausheroferoz, stated colostrum should be given to the newborn. The knowledge is closely correlated here with the practice as 65% mothers in Ghotki, 59% in Khairpur and 61% in Nausheroferoz stated giving colostrum to newborns.

More than 73% mothers termed colostrum as “strength giving milk”, followed by 40% who said it is the “safest intake for the newborn”. During in-depth discussions, majority of mothers termed colostrum intake important for the newborn. Mothers-in-law also cited the same; whereas fathers shared the mother’s milk is the best source for the baby and should be started as early as possible.

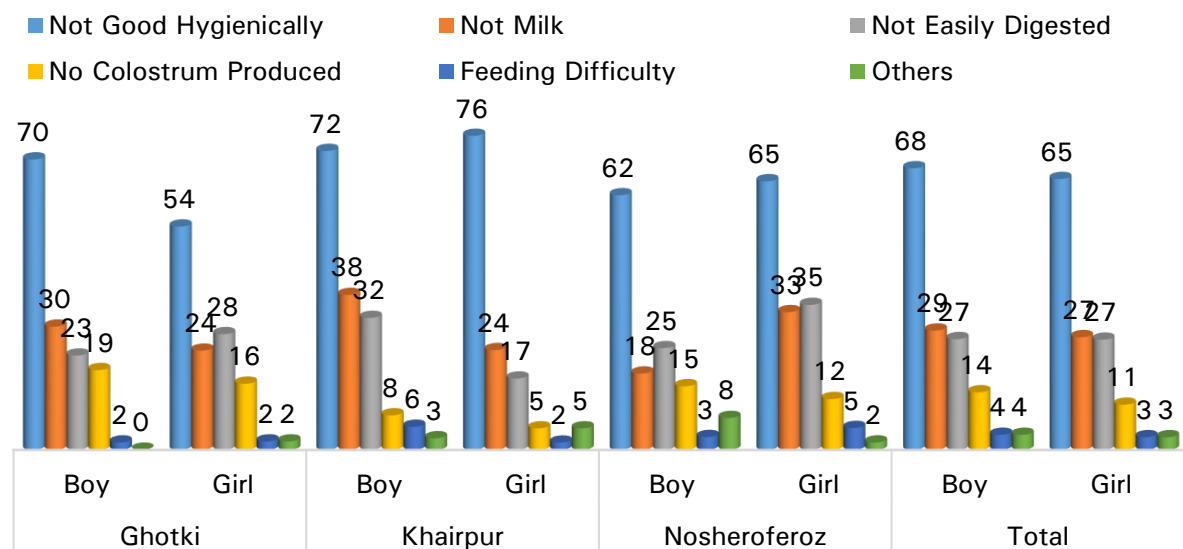
*First milk (colostrum) should be given to baby as it increases love between mother and child and it has vitamins and it gives strength to baby (a mother from Ghotki).*

Mothers who did not give colostrum to their newborns shared concerns regarding safety of the thick yellowish initial breast produce.

**Figure 9: Reasons for not Giving Colostrum (%)**

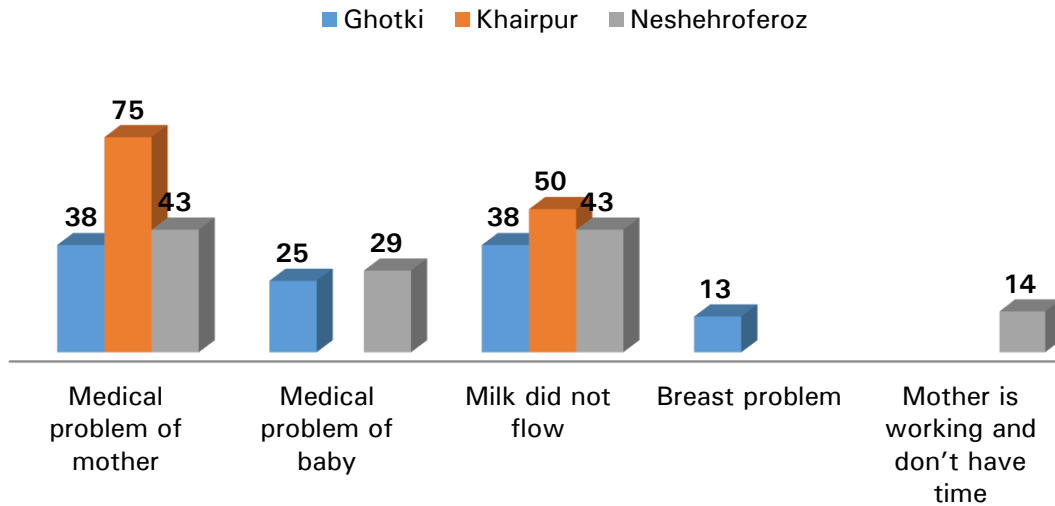


**Figure 10: Reasons for not Giving Colostrum (%) by Gender Disaggregation**

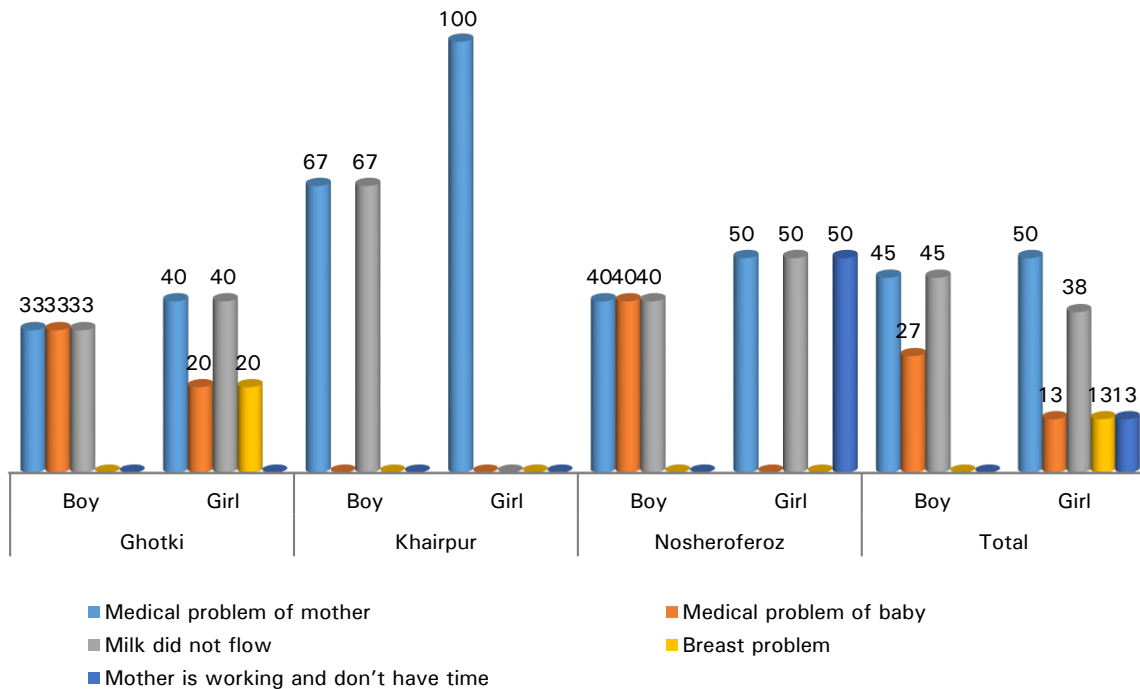


Mothers (98%) of children 0-23 months reported having ever breastfeeding the child. Of the mothers who reported never breastfeeding their children cited health issues of the mother and child and no milk as major reasons.

**Figure 11: Reasons for Never Breastfeeding the Child (%)**



**Figure 12: Reasons for Never Breastfeeding the Child (%) by Gender Disaggregation**

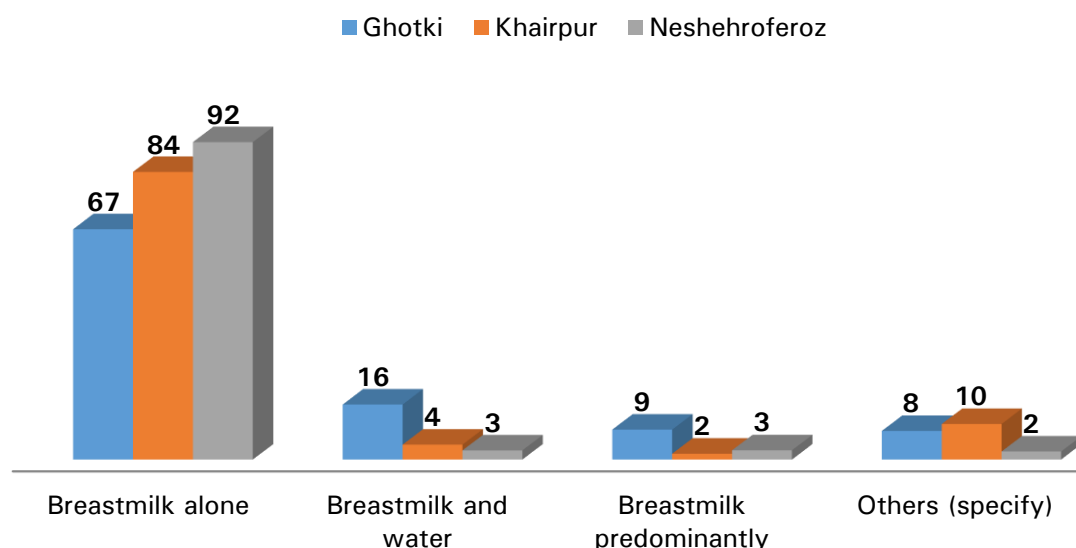


The decision about breastfeeding is predominantly made by mothers (98%) themselves with no significant difference between the districts.

### 3.1.2 Exclusive breastfeeding

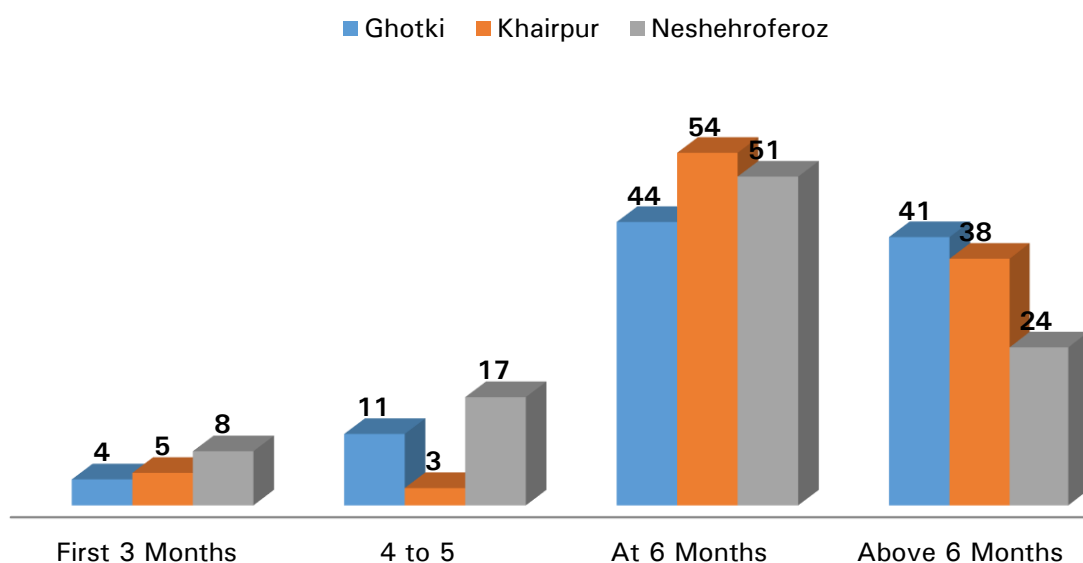
Exclusive breastfeeding is feeding the child only with breast milk (not even water) for the first six months. According to updated definitions, giving ORS, medicine, vitamins/drops where required is not excluded from the exclusive breastfeeding category.

Figure 13: Knowledge about Exclusive Breastfeeding (%)



Mothers had good knowledge about exclusive breastfeeding in Khairpur and Nausheroferoz with 83.7% and 92.3% mothers respectively stating that it is administering only breast milk and not even water or juice in addition. In Ghotki 67% mothers correctly identified and 44% stated that exclusive breastfeeding should be continued for the first 6 months. Mothers in Khairpur (54%) and Nausheroferoz (50%) identified the duration to be first 6 months. It is important to note that mothers, 41% in Ghotki, 38% in Khairpur and 24% in Nausheroferoz, favored extending exclusive breastfeeding beyond 6 months.

Figure 14: Knowledge about Duration of Exclusive Breastfeeding



Responding to how many times a child should be given breast milk, the most common response is "on demand" (89% in Ghotki, 77% in Khairpur, 80% in Nausheroferoz). The actual practice of exclusive breastfeeding reported closely matches with correct reported knowledge of type and duration recommended - 45%, for Ghotki and 55% for Khairpur. Although the knowledge



is high (92%) in Nausheroferoz, 42% mothers practice it. The study area exclusive breastfeeding levels are higher than provincial and district reported levels. A finding that can be attributed to confusion regarding exclusive and predominant breastfeeding, since in almost all the qualitative discussions, participants had no clear demarcation for both values.<sup>98</sup>

In Khairpur and Ghotki, girl child has been exclusively breastfed more in Ghotki (49%) and Khairpur (56%) than the male child (40% in Ghotki, 52% Khairpur), a trend which is reversed in Nausheroferoz (47% boys & 37% girls).

**Table 9: Exclusive Breastfeeding Under Six Months**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	43	44.8	60	54.5	36	41.9	139	47.6
No	53	55.2	50	45.5	50	58.1	153	52.4
<b>Total</b>	<b>96</b>	<b>100.0</b>	<b>110</b>	<b>100.0</b>	<b>86</b>	<b>100.0</b>	<b>292</b>	<b>100.0</b>

**Table 10: Exclusive Breastfeeding Under Six Months by Gender Disaggregation**

	Ghotki				Khairpur				Nausheroferoz				Total			
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Yes	19	40.4	24	49.0	29	52.7	31	56.4	19	47.5	17	37.0	67	47.2	72	48.0
No	28	59.6	25	51.0	26	47.3	24	43.6	21	52.5	29	63.0	75	52.8	78	52.0
<b>Total</b>	<b>47</b>	<b>100.0</b>	<b>49</b>	<b>100.0</b>	<b>55</b>	<b>100.0</b>	<b>55</b>	<b>100.0</b>	<b>40</b>	<b>100.0</b>	<b>46</b>	<b>100.0</b>	<b>142</b>	<b>100.0</b>	<b>150</b>	<b>100.0</b>

Generally knowledge about exclusive breastfeeding with its benefits is quite good. In FGDs, the respondents (mothers and mothers-in-law) strongly favored exclusive breastfeeding for six months. The participants had adequate knowledge regarding benefits of exclusive breastfeeding.

*Water should not be given before 6 months even in hot weather. Mothers' milk has everything in it (a mother from Ghotki).*

*It is important for mental and physical growth of child, it strengthen bones etc. Also mother and child relationship is maintained (a mother from Nausheroferoz).*

The knowledge regarding exclusive breastfeeding for 6 months was better in Ghotki and Nausheroferoz than Khairpur. More than two-thirds of fathers from these districts strongly favored exclusive breastfeeding for six months and had adequate knowledge regarding benefits of exclusive breastfeeding.

*Exclusive breastfeeding should be continued till 6 months (A father from Nausheroferoz).*

Fathers believe mother's milk is best feed for baby and defer to women to decide between exclusive or predominant breastfeeding. Knowledge around frequency of breastfeeding was also good across three districts where all respondents (mothers, fathers and mothers-in-law) emphasized a baby should be fed frequently on demand, preferably every two-three hours.

<sup>98</sup>MICS 2014

### 3.1.3 Predominant Breastfeeding Under Six Months

Predominant breastfeeding is when the child gets predominant nourishment from mother's milk, and in addition, water, water-based drinks, fruit juice, ritual fluids etc. are also administered (ORS, vitamins and medicines etc. are also not excluded).

**Table 11: Predominant Breastfeeding Under Six months**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	16	16.7	19	17.3	19	22.1	54	18.5
No	80	83.3	91	82.7	67	77.9	238	81.5
<b>Total</b>	<b>96</b>	<b>100.0</b>	<b>110</b>	<b>100.0</b>	<b>86</b>	<b>100.0</b>	<b>292</b>	<b>100.0</b>

**Table 12: Predominant Breastfeeding Under Six Months by Gender Disaggregation**

	Ghotki				Khairpur				Nausheroferoz				Total			
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Yes	7	14.9	9	18.4	7	12.7	12	21.8	8	20.0	11	23.9	22	15.5	32	21.3
No	40	85.1	40	81.6	48	87.3	43	78.2	32	80.0	35	76.1	120	84.5	118	78.7
<b>Total</b>	<b>47</b>	<b>100</b>	<b>49</b>	<b>100</b>	<b>55</b>	<b>100</b>	<b>55</b>	<b>100</b>	<b>40</b>	<b>100</b>	<b>46</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>150</b>	<b>100</b>

Predominant breastfeeding rate is 17% each in Ghotki and Khairpur and 22% in Nausheroferoz. Study levels are lower than the reported (MICS 2014) provincial (56%) and district (Ghotki 51%, Khairpur 46%, Nausheroferoz 39%) levels. This is relatable to the confusion regarding exclusive and predominant breastfeeding observed during FGDs with mothers. There is also higher value for girl child being predominantly breastfed than the male child; 15% boys and 18% girls in Ghotki, 13% boys and 21% girls in Khairpur and 20% boys and 24% girl child in Nausheroferoz were reported to be predominantly breastfed.

Although majority of mothers stated exclusive breastfeeding to be nothing but mother's milk for the first six months of age, FGDs revealed water and other fluids such as gripe water, saunf water, qehwa are frequently not considered an "addition" to breast milk. The demarcation is not clear to even some service providers.

*Mother's milk is very good, with a trend of medicines and gripe water (a father from Ghotki).*

### 3.1.4 Continued Breastfeeding for First Year

Respondents stated breastfeeding should be continued in case of mother's illness (92%), child's illness (92% for stomach aches and 85% for other infections), diarrhea (95%), and vaccination (95%) with no major difference across three districts. More mothers in Ghotki (59%), Khairpur (36%) and Nausheroferoz (40%) shared that breastfeeding should continue in case of subsequent pregnancy before two years.

Nearly two-thirds of mothers, 62% in Ghotki, 69% in Khairpur and 68% in Nausheroferoz, continue breastfeeding till one year. Continued breastfeeding for the first year findings are actually lower than the reported district levels (Ghotki 79%, Khairpur 78% and Nausheroferoz 72%).<sup>99</sup> In FGDs, knowledge around continued breastfeeding was quite good

<sup>99</sup> Ibid

among all respondents across the three districts. In practice, girl children are more continually breastfed in the three districts –69%, 86%, and 72% female children were continually breastfed at 1 year than 54%, 55% and 63% male children in Ghotki, Khairpur and Nausheroferoz respectively.

**Table 13: Continued Breastfeeding (One Year)**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	46	62.2	35	68.6	40	67.8	121	65.8
No	28	37.8	16	31.4	19	32.2	63	34.2
<b>Total</b>	<b>74</b>	<b>100</b>	<b>51</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>184</b>	<b>100</b>

**Table 14: Continued Breastfeeding (One Year) by Gender Disaggregation**

	Ghotki				Khairpur				Nausheroferoz				Total			
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Yes	19	54.3	27	69.2	16	55.2	19	86.4	19	63.3	21	72.4	54	57.4	67	74.4
No	16	45.7	12	30.8	13	44.8	3	13.6	11	36.7	8	27.6	40	42.6	23	25.6
<b>Total</b>	<b>35</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>29</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>29</b>	<b>100</b>	<b>94</b>	<b>100</b>	<b>90</b>	<b>100</b>

*As long as child drinks it – 1-2 years – 1 year at least – 1.5 years – 2 years according to Quran (a father from Khairpur).*

Subsequent pregnancy before two years is the dominant reason for discontinuing breastfeeding to avoid weakness of the mother. During FGDs concern/advice of mother-in-law in this regard is also mentioned.

*I gradually discontinued as mother becomes too weak and also the second child needs nutrition and blood to grow (a mother from Nausheroferoz).*

*We don't stop breastfeeding during the first few months of pregnancy but after 4-5 months in pregnancy we suggest them to stop breastfeeding (a mother-in-law from Ghotki).*

Findings from FGDs are consistent with the practice of discontinuation and the reasons mothers and mothers-in-law cited for it. Other than subsequent pregnancy, insufficient milk and baby not drinking anymore have been given as reasons by mothers, fathers, and mothers-in-law. Fathers also shared that mothers stop breastfeeding due to illness or low or no production of milk.

*If breast milk has dried up or if mother has become ill due to some reason (a father from Ghotki).*

**Figure 15: Reasons (%) for Discontinuing Breastfeeding (Practice)**

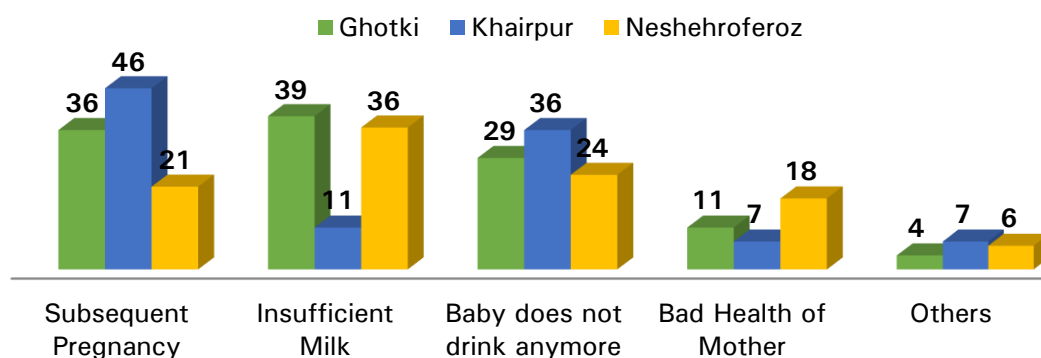
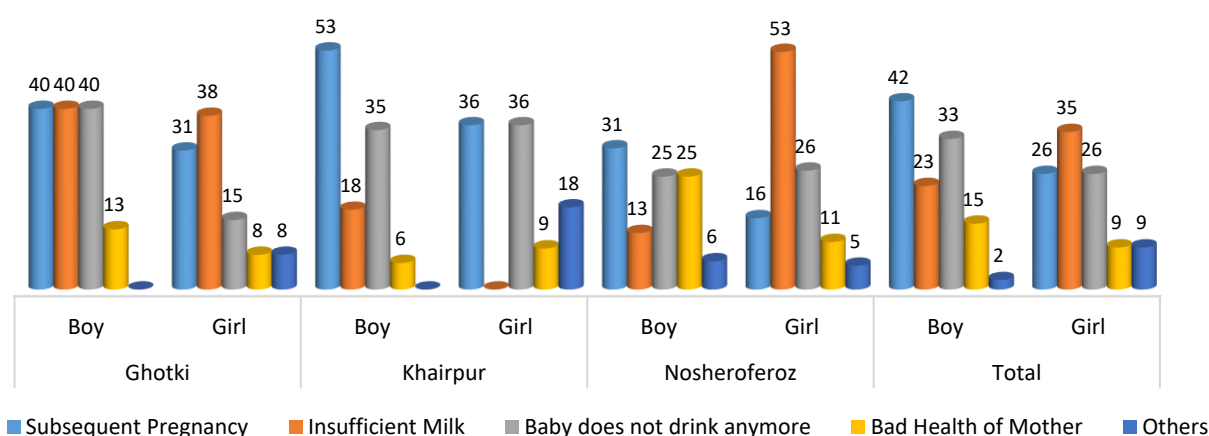


Figure 16: Reasons (%) for Discontinuing Breastfeeding (Practice) by Gender Disaggregation



### 3.1.5 Continued Breastfeeding for First Two Years

Responding to the query of optimal duration of breastfeeding, 20-23 months old who receive continued breastfeeding is high in Nausheroferoz (81%) and Khairpur (82%), but comparatively low in Ghotki (65%). These values correlate close to district values reported (MICS 2014).

Table 15: Continued Breastfeeding at Two Years

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	13	65	19	82.6	48	81.4	80	78.4
No	7	35	4	17.4	11	18.6	22	21.6
<b>Total</b>	<b>20</b>	<b>100</b>	<b>23</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>102</b>	<b>100</b>

Table 16: Continued Breastfeeding at Two Years by Gender Disaggregation

	Ghotki				Khairpur				Nausheroferoz				Total			
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Yes	10	66.7	3	60.0	11	91.7	8	72.7	30	81.1	18	81.8	51	79.7	29	76.3
No	5	33.3	2	40.0	1	8.3	3	27.3	7	18.9	4	18.2	13	20.3	9	23.7
<b>Total</b>	<b>15</b>	<b>100</b>	<b>5</b>	<b>100</b>	<b>12</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>64</b>	<b>100</b>	<b>38</b>	<b>100</b>

Although continued breastfeeding for one year shows more female children are continually breastfed, however the gap is bridged and turned in the favor of the boys at the 2 year mark – 66%, 91%, and 81% male children were continually breastfed for two years than 60%, 72%, and 81% female children in Ghotki, Khairpur and Nausheroferoz respectively. The knowledge and practice are closely related in Nausheroferoz and Khairpur, while in Ghotki more than 85% knowledge for optimal duration of breastfeeding to two years is not as closely practiced. The good knowledge regarding duration of continued breastfeeding is also reported in FGDs. Almost all mothers and mothers-in-law strongly supported continued breastfeeding up to two years irrespective of boy or girl child.

*Two years for both boy and girl child (a mother from Ghotki).*

*Two years. It also helps in family planning (a mother from Nausheroferoz).*

*Breastfeeding should be continued for at least two years (a mother-in-law from Khairpur).*

*Even if mother becomes pregnant again, the first child has right to feed on mother's milk till 2 years (a mother from Ghotki).*

Knowledge around continued breastfeeding was also adequate among fathers in the three districts as they shared a child should be breastfed for up to 2 years.

*As long as child drinks it – 1-2 years – 1 years at least – 1.5 years – 2 years according to Quran. (Fathers from Khairpur).*

### 3.1.6 Introduction of Solid, Semisolid or Soft Foods

Introducing complementary feeding is the process of introducing soft, semisolid food to the child after the first six months advisably. Foods other than milk are gradually introduced in progressively increasing quantity and frequency to ensure a child's growing energy and nutrient requirements are met. Timely complementary feeding rate is 55% in Khairpur, followed by 50% in Ghotki and 45% in Nausheroferoz. There is no significant gender wise difference in introducing solid and semisolid in the three districts.

**Table 17: Timely Introduction of Solid, Semisolid or Soft Foods**

Yes	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
	91	49.7	111	55	98	45	300	49.8

**Table 18: Timely Introduction of Solid, Semisolid or Soft Foods by Gender Disaggregation**

Yes	Ghotki				Khairpur				Nausheroferoz				Total			
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
	78	50.6	72	48.3	81	49.1	70	47.6	85	52.8	79	52.3	244	50.8	221	49.4

Knowledge regarding the critical time for introduction of semisolid food varied among respondents in in-depth discussion. Although the range is defined from 4-7 months, almost half of the mothers and mothers-in-law stated the optimal time of initiating complementary feedings right at or closely after six months.

*Yes, after six months we start soft food (a mother from Ghotki).*

*It is started from seventh month (a mother from Khairpur).*

*Those who are wise enough they start complementary food from third month (a mother-in-law from Khairpur).*

Knowledge regarding initiating complementary feeding practice varied among fathers as they perceived soft food can be initiated anytime between 3-7 months. The knowledge around initiating soft, semisolid and solid food was adequate among fathers.

*It is started after 6 -7 months...biscuits, Cerelac, egg, banana, khichri, halwa can be given...meat and roti can be given after 1 year (a father from Khairpur).*

*Cerelac and potatoes can be given to child from 4 months...soft food like banana and anything that baby wants to eat can be given (a father from Ghotki).*

*Here mostly women give tea and biscuits to children (fathers from Ghotki).*

The food items most commonly given are soft rice (khichri), eggs, banana, cerelac®, potatoes, yoghurt, porridge (daliya), biscuits dipped in tea, soft food without spices, tea, honey, and butter etc. Knowledge about solid, semisolid or soft food was same among fathers, mothers, and mothers-in-law from the three districts. It was observed that biscuits and potatoes are common food items. Commercially prepared, ready to make food for children (Cerlac®) is also commonly given. Respondents' responses on pattern of common food consumption among children in the categories 6-8 months, 9-11 months and 12-23 months have been summed up in the textbox below. No differential is mentioned by any respondent due to child's gender.

Food choices for a child 6-8 months old	Food choices for a child 9-11 months old	Food choices for a child 12-24 months old
<ul style="list-style-type: none"><li>•Soft rice (<i>khichri</i>), porridge (<i>daliya</i>), biscuits dipped in tea, Cerelac®, butter, milk, egg, banana, <i>suji ka halwa</i>, potatoes, yoghurt,</li></ul>	<ul style="list-style-type: none"><li>•Rice, boiled potato, wheat bread, fruits, Cerelac®, meat, yoghurt</li></ul>	<ul style="list-style-type: none"><li>•anything cooked at home</li></ul>

### 3.1.7 Minimum Dietary Diversity

Food given to children is subcategorized into seven main food groups: grains, roots and tubers; legumes and nuts; dairy products (milk, yogurt, cheese); flesh foods (meat, fish, poultry and liver/organ meats) eggs; vitamin-A rich fruits and vegetables and other fruits and vegetables. WHO recommends a child should be fed daily from 4 or more food groups. Minimum dietary diversity is the proportion of child (6-23 months) who received minimum 4 or more than 4 food group based diet in the last 24 hours.

Minimum dietary diversity is very poor in the three districts (6-23 months age). Only 2.9% children in Ghotki, 2.5% in Khairpur and 3.5% in Nausheroferoz fulfill the minimum dietary diversity criteria. Female children show a comparatively higher percentage for minimum dietary diversity in Khairpur (3.3%) and Nausheroferoz (4.8%) compared to male children (1.8% in

Khairpur and 2.5% in Nausheroferoz). A reverse trend is noted in Ghotki with minimum dietary diversity being 3.7% for boys and 2% for girls.

**Table 19: Minimum Dietary Diversity**

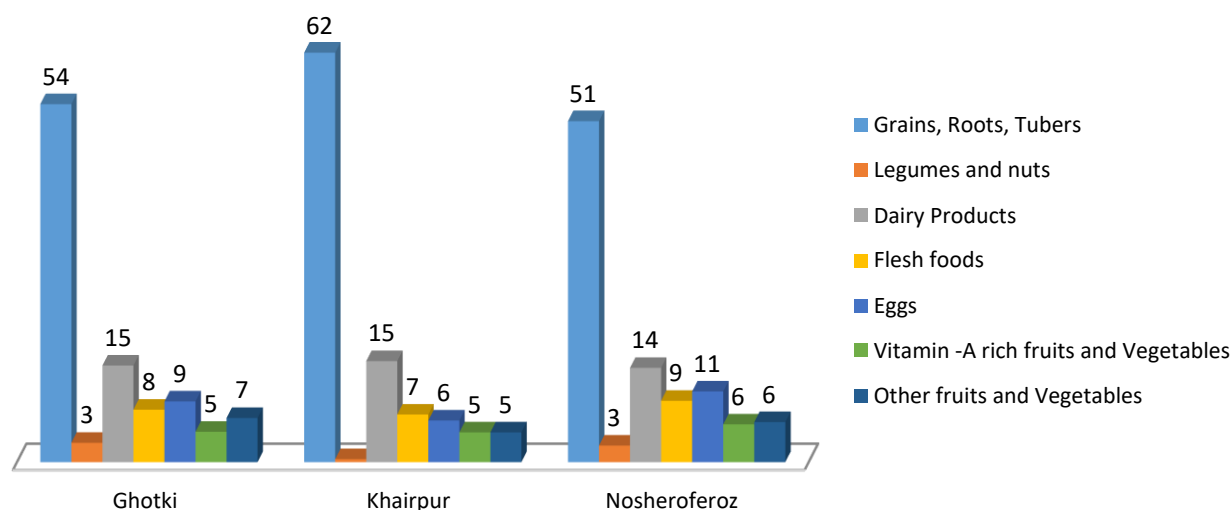
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	6	2.9	5	2.5	8	3.5	19	3
No	201	97.1	197	97.5	218	96.5	616	97
<b>Total</b>	<b>207</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>226</b>	<b>100</b>	<b>635</b>	<b>100</b>

**Table 20: Minimum Dietary Diversity by Gender Disaggregation**

	Ghotki				Khairpur				Nausheroferoz				Total			
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Yes	4	3.7	2	2.0	2	1.8	3	3.3	3	2.5	5	4.8	9	2.7	10	3.4
No	103	96.3	98	98.0	108	98.2	89	96.7	118	97.5	100	95.2	329	97.3	287	96.6
<b>Total</b>	<b>107</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>110</b>	<b>100</b>	<b>92</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>105</b>	<b>100</b>	<b>338</b>	<b>100</b>	<b>297</b>	<b>100</b>

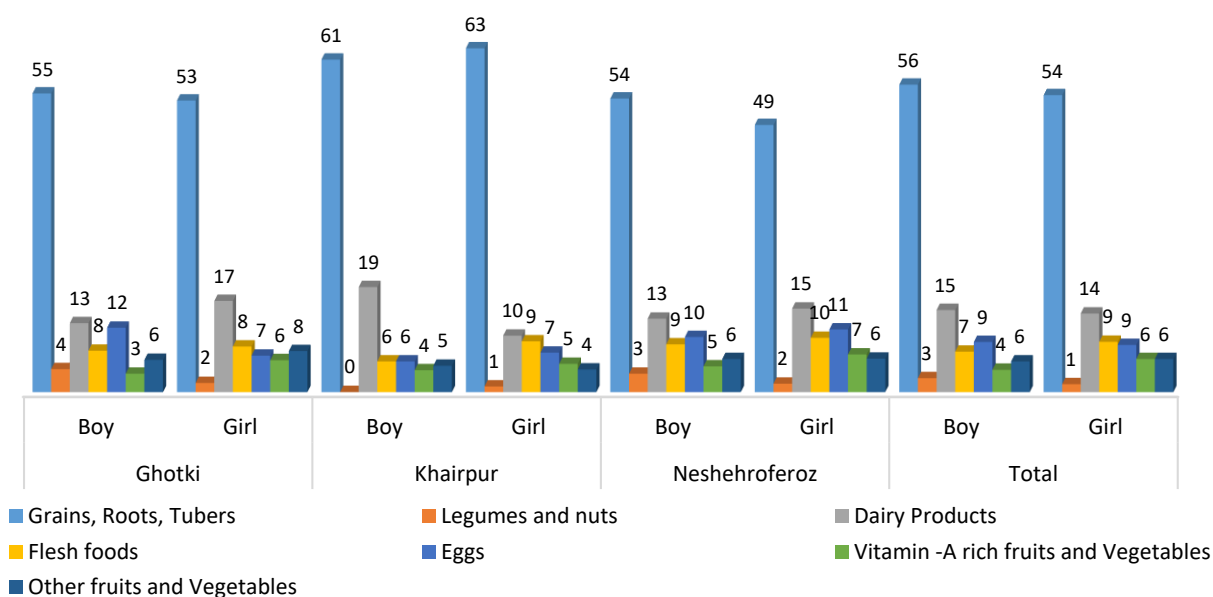
Minimum dietary diversity from the study findings is even less than the reported values for the districts – 8% in Ghotki, 11% in Khairpur, and 12% in Nausheroferoz<sup>100</sup> and lower than provincial (8%). Most commonly consumed food group is grain, roots and tubers with 54% consumption in Ghotki, 62% in Khairpur and 51% in Nausheroferoz. Fresh vegetables, nuts and legumes, fruits and flesh food have very poor consumption. There is no preference depicted on the basis of gender on the consumption of flesh foods; equal or higher percentage is noted for female children receiving flesh food compared to male children.

**Table 21: %age of Children (6-23 months) Consuming Items from Food Groups in Past 24 hours**



<sup>100</sup> Ibid

**Table 22: %age of Children (6-23 months) Consuming Items from Food Groups in Past 24 Hours by Gender Disaggregation**



Dietary diversity, cooking and food selection was discussed during FGDs with mothers, fathers and mothers-in-law. Almost all mothers and mothers-in-law across three districts reported making separate food for children as appropriate for their age and taste. However, none of the participants (mothers and mothers-in-law) mentioned any balance or mixing of different groups while making meal for nutritional enhancement. Fathers did mention soft foods for baby to be administered along with breast milk, but mothers and mothers-in-law provided detailed accounts of type of food and variation in meals.

*When they are small we make kheer, khichri; they don't like spicy food so we make less spicy food for them like white rice or suji ka halwa (a mother-in-law from Ghotki).*

*We cook separately like khichri, rice and any other thing that they like to eat (a mother from Ghotki).*

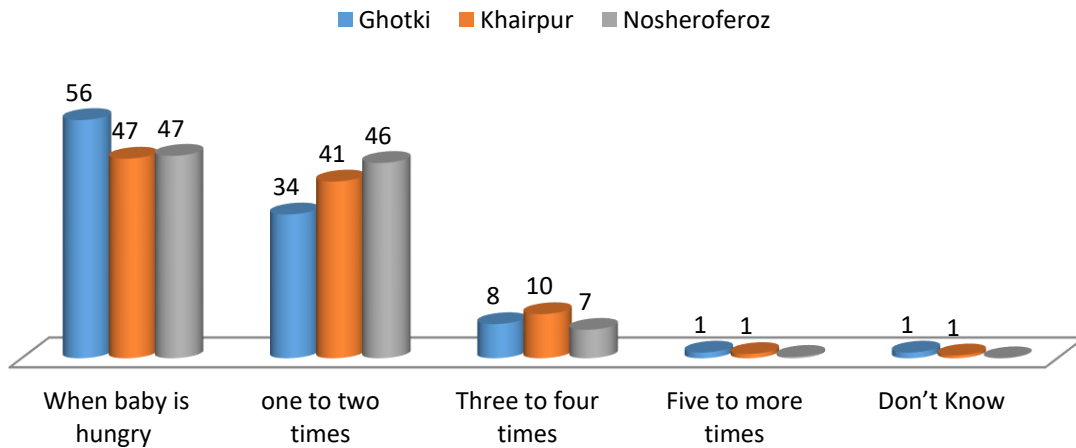
*Soft food should be started from 6 months onward till one-and-a-half year...soft food like Cerelac, banana can be given (a father from Nausheroferoz).*

### 3.1.8 Minimum Meal Frequency

For energy requirements fulfillment, multiple meals are given to children. The frequency of meals recommended per day is further categorized into children with breastfeeding continuation or no breastfeeding. The figure below gives the knowledge of mothers regarding frequency of meals to be given to children 6-23months old.

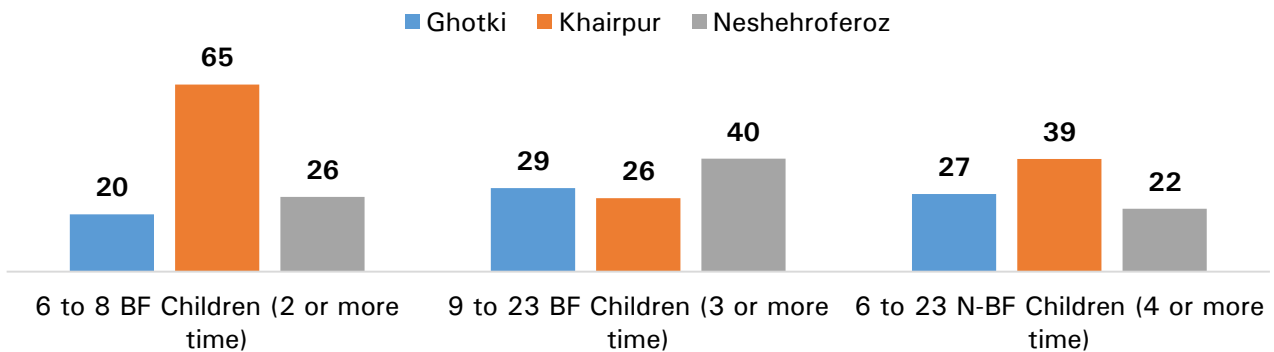


**Figure 17: Knowledge about Frequency of Meals (6-23 Months)**

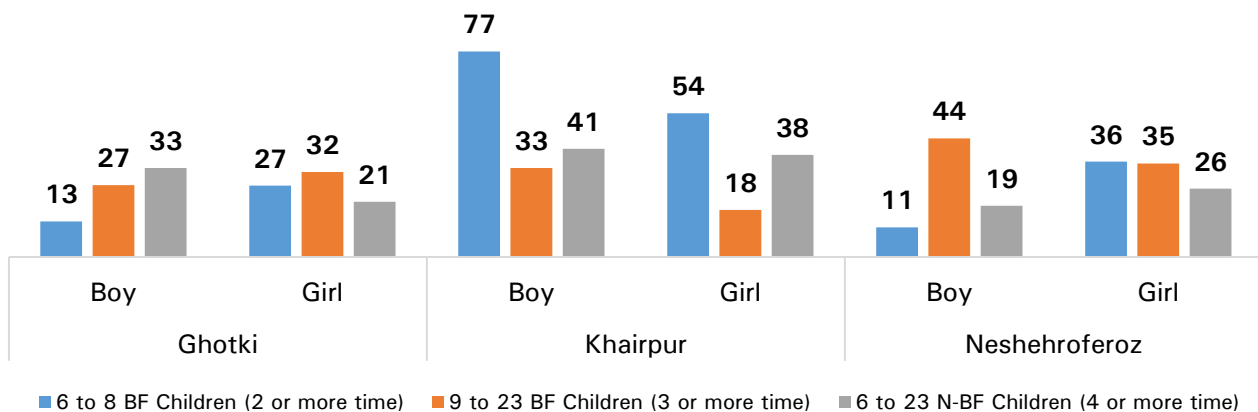


Meal frequency in the last 24 hours has been shown below where breastfed children are subcategorized into two age groups; 6-8 months for 2 or more meals and 9-23 months for 3 or more meals. Non-breastfed children comply with the minimum meal frequency criteria of 4 or more meals per day for 6-23 months. The situation is bleak. Apart from Khairpur where breastfed children (6-8 month) Minimum Meal Frequency is 65%, all children generally in all subgroups have poor meal frequency. Almost two-thirds of children in all subgroups do not reach the minimum recommended frequency.

**Figure 18: Minimum Meal Frequency (6 to 23 Months) (%)**



**Figure 19: Minimum Meal Frequency (6 to 23 Months) (%) by Gender Disaggregation**



During FGDs, mothers and mothers-in-laws shared the complementary feed should be given to a child at least 2-3 times a day while milk (breastfeeding, formula, fresh) at least 3-4 times or on demand. Fathers also reported that the complementary feed should be given to a child at least 2-3 times a day.

*About 2-3 times in a day, it (complementary feed) varies as child grows and demand for complementary food increases (a father from Nausheroferoz).*

*Breastfeeding should be continued simultaneously after every 2 hours (a father from Khairpur).*

### 3.18 Minimum Acceptable Diet

Minimum acceptable diet is a derived indicator for proportion of children (6-23 month) who receive a diet fulfilling both Minimum Dietary Diversity and Minimum Meal Frequency. Complementary feeding practices in terms of frequency and diversity are poor for the three districts. Children receiving minimum acceptable diet are critically low at 0.48% in Ghotki, 0.99% in Khairpur and 2.12% in Nausheroferoz.

#### 3.1.9 Consumption of Iron-Rich or Iron-Fortified Food

Iron is an essential micronutrient as its deficiency causes anemia leading to physical and mental growth retardation and malnutrition. Protein foods of animal origin are best sources of iron. Iron fortified foods are also available for consumption. Iron rich or iron fortified food consumption for children 6-23 months is reportedly low in the three districts (13% in Ghotki, 11% in Khairpur and 17% in Nausheroferoz). Positively girl children show a higher percentage of consumption of iron rich food; 15%, 13%, and 18% girls than 10%, 10% and 16% boys were iron rich or iron fortified food in last 24 hours in Ghotki, Khairpur and Nausheroferoz respectively.

**Table 23: Consumption of Iron-Rich or Iron-Fortified Foods**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	26	12.6	23	11.4	38	16.8	87	13.7
No	181	87.4	179	88.6	188	83.2	548	86.3
<b>Total</b>	<b>207</b>	<b>100.0</b>	<b>202</b>	<b>100.0</b>	<b>226</b>	<b>100.0</b>	<b>635</b>	<b>100.0</b>

**Table 24: Consumption of Iron-Rich or Iron-Fortified Foods by Gender Disaggregation**

	Ghotki				Khairpur				Nausheroferoz				Total			
	Boy		Girl		Boy		Girl		Boy		Girl		Boy		Girl	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Yes	11	10.3	15	15.0	11	10.0	12	13.0	19	15.7	19	18.1	41	12.1	46	15.5
No	96	89.7	85	85.0	99	90.0	80	87.0	102	84.3	86	81.9	297	87.9	251	84.5
<b>Total</b>	<b>107</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>110</b>	<b>100</b>	<b>92</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>105</b>	<b>100</b>	<b>338</b>	<b>100</b>	<b>297</b>	<b>100</b>

During in-depth qualitative probing it was found that poverty and purchasing power are noticeably contributing to low consumption of iron rich food at household level and consequently by the child. Participants said flesh foods were consumed less compared to grains and vegetable mainly due to lack of affordability.

*Meat is expensive and poor people cannot afford meat, therefore vegetables are consumed more (a mother from Khairpur).*

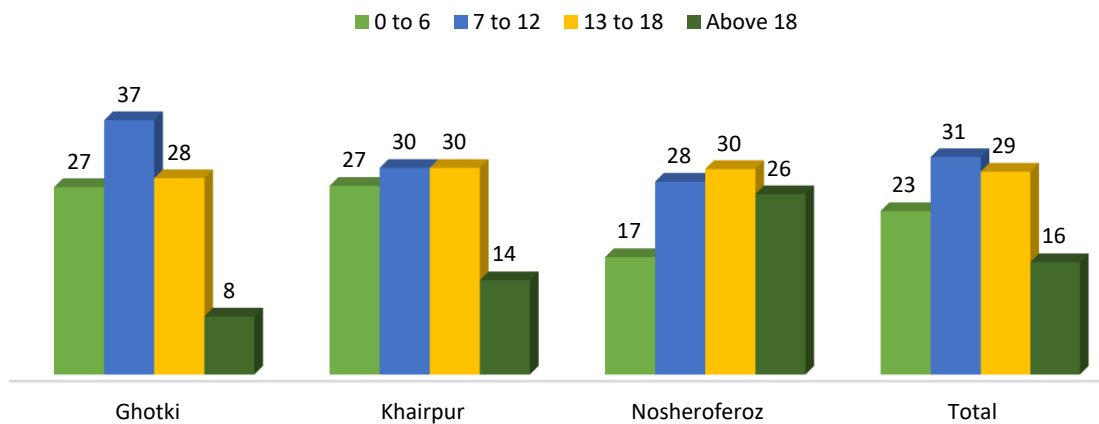
*We don't eat eggs or meat regularly as we are poor. In lunch we eat gravy (salan), vegetables and lentils etc. In dinner we eat rice, lentils and vegetables (a father from Ghotki).*

### 3.1.10 Bottle Feeding

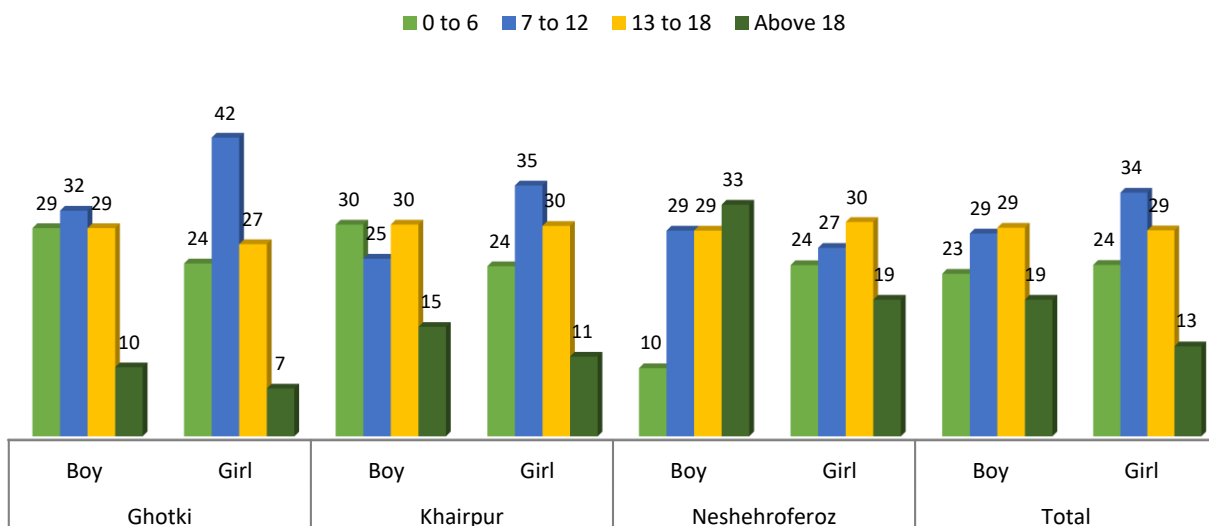
The reported proportion of children who were fed using a bottle in the last 24 hours is high in the three districts. Figure below presents the percentage of children in subgroups of age who were fed using bottle (includes all children receiving only bottle feeding and mixed bottle and breastfeeding).

In Ghotki, 27% children of 0-6 months of age, 37% of 7-12 months, 28% of 13-18 months and 8% of above 18 months of age are bottle fed. In Khairpur, 27% children of 0-6 months of age, 30% of 7-12 months, 30% of 13-18 months and 14% of above 18 months of age are fed using a bottle. In Nausheroferoz, 17% children of 0-6 months of age, 28% of 7-12 months, 30% of 13-18 months, and 26% of above 18 months of age are bottle fed. The finding can be attributed to study limitation of employing LHWs support in reaching the target population.

**Figure 20: Bottle Feeding**



**Figure 21: Bottle Feeding by Gender Disaggregation**



The study findings reveal comparable and slightly lower bottle feeding rates than reported values for district and province levels. However, the denominator of age groups is not given in reported district and provincial values. A rise occurs in bottle feeding rate around 6 months, which continues till 18 months and then declines.

According to FDGs' participants (mothers, mothers-in-law and fathers), fresh milk or formula milk is fed to children through bottle. Mixed feeding method of giving both breast milk and bottle feeding is also prevalent owing mainly to cultural consideration of breastfeeding in group or out of home, perceived weakness of mother, giving extra nourishment and ease of administration by any family member. Initiation of breastfeeding is delayed and bottle feeding is very high at times even prescribed by doctors in cases of caesarian delivery.

Fathers did not have any particular preference for giving fresh milk or formula milk. They also reported that main reason for choosing BMS is the advice of doctor or health service provider.

*The doctor prescribed this to us and we gave it for one day. Afterwards she started breastfeeding. With time you have to give it as you have no other option. Otherwise we would not have given it (a father from Khairpur).*

*Mother milk is best. In case of limitation it (powder milk and fresh milk) may be given (a father from Nausheroferoz).*

*I give Lactogen® on doctor's recommendation (a mother from Khairpur).*

*In case of operation, we are advised by doctor for powder milk as we were unable to feed for 3-4 days (a mother from Nausheroferoz).*

Respondents in the three districts reported preference for fresh milk. One of the main reasons for using fresh milk or formula milk was insufficient breast milk to fulfill child's appetite and perceived needs.

*We give cow and buffalo milk (a mother from Nausheroferoz).*

*Doctors advise us for breastfeeding as early as possible and formula milk is suggested to satisfy child's appetite (a mother from Nausheroferoz).*

*Breastfeed is best; however, in some cases mothers don't have sufficient breast milk therefore fresh (cow) milk is given (a mother-in-law from Nausheroferoz).*

*I started it when she was one year old because her stomach was not filled (with breast milk only). So I started giving her the cow milk (a mother from Khairpur).*

Knowledge and practice around boiling fresh milk was good among all FDGs respondents. All respondents said they boil fresh milk before giving it to the child.

*Yes, it is properly boiled and strained; and kept (stored) in a safe bottle (a mother from Khairpur).*

*We tell our daughters-in-law to boil it before giving to children (a mother-in-law from Ghotki).*

Using cups for giving animal or formula milk is very low. Almost all women who are feeding either fresh milk or formula milk reported to using bottles or feeders rather than cups.

*My daughter takes feeder. I started it when she was one year old (a mother from Khairpur).*

*Yes we do (use bottle for feeding) and wish to continue till 5 years (a mother from Nausheroferoz).*

### 3.1.11 Sources of Information for Mothers

Respondents have identified many sources of their information. LHWs, dais, and doctors make the largest group of source for reliable information. Elders and family members are also prominent information and guidance source for mother. Though Pakistan today has more than 89 private TV channels along with the state run PTV, only 18% said television is a source of information for mothers. According to MICS 2014, 51.1% households in Ghotki, 55.7% in Kharipur and 70.6% in Nausheroferoz have a TV set.

**Table 25: Sources of Information (multiple choices possible)**

	Ghotki		Kharipur		Nausheroferoz	
	#	%	#	%	#	%
Television	53	17.7	86	28.7	54	18.0
Radio	24	8.0	2	.7	4	1.3
Newspapers	12	4.0	4	1.3	0	0.0
Internet	1	.3	0	0.0	1	.3
Street Theaters	0	0.0	2	.7	1	.3
LHW Meeting	94	31.3	153	51.0	27	9.0
Medical Doctors	98	32.7	118	39.3	91	30.3
Health SP	12	4.0	35	11.7	8	2.7
Dai (TBAs)	51	17.0	27	9.0	28	9.3
From Elders	105	35.0	154	51.3	143	47.7
Religious Leaders	2	.7	0	0.0	0	0.0
<b>Others</b>	<b>14</b>	<b>4.7</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>

Combined groups of health service providers (doctors, LHWs, nurses etc.) is the most common information source for mother. LHW meetings are an important source of group information and discussion. Elderly from household, neighborhood and family constitute a main subgroup for information; mothers; sisters, mothers-in-law, and relatives are frequently sought for information regarding infant and young child feeding by women.

### 3.2 Factors affecting IYCF Service Delivery (by public department)

Based on the responses of the provincial and district key health officials, the following have been identified as major factors affecting IYCF service delivery

#### 3.2.1 Human Resource

Shortage of LHW has been reported from the three districts, leading to substantial uncovered proportion of population remaining unaware about IYCF and other health education messages.

*We have 712 LHWs covering the population of around 1.7 million - one million is not covered. It is essential to convey the health education message especially on infant and young child feeding message to those one million (district health manager from Ghotki).*

*We have approximately 1650 LHWs and 455 (slots) are vacant. We have sent request for filling those vacant slots (district health manager from Kharipur).*

*Recruitments have not been done. We are now planning to advertise positions. It will take about 2 to 4 months to complete the recruitment process (a district health manager from Nausheroferoz).*

Shortage of doctors at primary and tertiary healthcare facilities has also been reported as major factor hampering service delivery.

*We have shortage of 147 doctors which is a big shortage. We also need such workforce which can support us in the evening. We need staff nurses, female staff like LHWs to expand this program and spread the message to uncovered population (a district health manager from Ghotki).*

*There is acute shortage of doctors and paramedics (a district health manager from Nausheroferoz).*

This shortage is caused by either unavailability of educated and trained human resource or preference for working in cities.

**Retention of Contractual Employees:** All primary level healthcare facilities (BHUs, RHCs) in Khairpur, Ghotki and Nausheroferoz are being managed by the Peoples Primary Healthcare Initiative. PPHI was criticized for its weak retention strategy.

*Those who are working (at PPHI) don't have any career structure. They work for a year but leave without any notice as soon as they get better opportunity because you are not giving incentive to the person who is working (a district health manager from Ghotki).*

### **3.2.2 Budget**

The health representatives from Khairpur and Ghotki stressed the need for enhanced funding and budget allocation for health in general.

*The budget allocation for health is 2% of GDP which according to WHO protocol must be at least 11%. The most affected due to lack of budget is counselling and behaviour change through communication (a health representative from Ghotki).*

*We have human resource of about 22000 LHWs. There is shortage of funds. Although the program has been regularized, we are not receiving funds as per the revised salaries. We request Sindh Government and hence the process is continued through bridge financing (a provincial health manager from Hyderabad).*

### **3.2.3 Political Pressure of Local Government**

Many officials shared that coordination with the local government remains a challenge because of the strong political influence affecting health service delivery.

*There is a lot of corruption as they get ample budget for this (sanitation and sewerage) but 80-90% of the budget amount is not utilized where due. There is no sewerage in cities - open drains and dirty water everywhere. Even at some points the sewerage water pours in pure water at larger scale (district health manager from Nausheroferoz).*

### **3.2.4 Acceptability of Health Promotion Messages and Services**

Cultural barrier is a major factor limiting acceptability from the community. Due to strong long held local traditions and customs, changing the local mindset is an uphill task.

*Major issue is of family planning - if a mother is not healthy but giving birth to children, how she can take care of her health (a provincial health manager from Karachi).*

*If you don't want to do anything for yourself nobody can do anything (a provincial health manager from Hyderabad).*

### **3.2.5 Breast Milk Substitutes (BMS)**

BMS are perceived time efficient by mothers who are unable to breastfeed at workplace or in group. As some women work in offices and others in fields, formula milk and fresh milk provide convenience to make up for the time spent away from home. Although specific regulations are in place for the protection of breastfeeding, a large number of health professionals prescribe BMS and a huge population uses them.

*When a baby is born weak the parents arrange money to buy powder milk. Some of them are not expensive (e.g. Lactogen® is Rs. 150) and also sachets are easily available (a district health manager from Ghotki).*

### **3.2.6 High Malnutrition**

According to key health and nutrition officials, despite continuous efforts and community outreach programs, malnutrition is still widely prevalent in Sindh, reaching a level where it should be declared a health emergency. Inadequate and nutritious-deficient food consumption, cultural norms, remote areas with limited health service delivery system and lack of prioritization of efforts are all contributing to alarming rise in malnutrition and stunting.

### **3.2.7 Implementation of Breastfeeding Law**

Awareness about breastfeeding law in Sindh is limited. Many key officials did not have comprehensive knowledge about the law. Respondents from Nausheroferoz were unaware about the existence of such law and health officials in Khairpur had no basic information regarding its jurisdiction. Those who knew about the law opined that it will take some time before it is properly implemented.

*Yes there is a law but there has not been effective implementation (a district health manager from Khairpur).*

## **3.3 WASH & Nutrition**

Two-thirds of the respondents (66%) in the three districts said they have a latrine inside their homes. However there are variations within the three districts. In Ghotki less than half of respondents (45.7%) reported latrine inside their home compared to 83.3% in Khairpur and 68.3% in Nausheroferoz. According to the MICS 2014, 39% households are without latrine inside the house. In other words the targeted areas for this study are socially and economically backward. There are more non-flush latrines (44%) in the rural areas of Ghotki than in urban areas (5%).<sup>101</sup> Open defecation is part of daily life in rural Sindh. In the three selected districts, 39% households in Ghotki, 35% in Khairpur and 26% in Nausheroferoz go outside for defecation.<sup>102</sup>

<sup>101</sup> PSLM 2014-15

<sup>102</sup> MICS 2014

**Table 26: Household having a latrine**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	137	45.7	250	83.3	205	68.3	592	65.8
No	163	54.3	50	16.7	95	31.7	308	34.2
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

**Table 27: Availability of hand washing station**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	24	8.0	193	64.3	230	76.7	447	49.7
No	276	92.0	107	35.7	70	23.3	453	50.3
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Though half of the respondents said they have a washing station available in their homes, there are strong variations within the three districts. Only 8% respondents in Ghotki said their home have a hand washing station available compared to 77% in Nausheroferoz and 64% in Khairpur. Overall 38% households in Ghotki have a specific place for hand washing where water and soap or other cleansing agent are present, which is less than the provincial level of 66.5%.<sup>103</sup> In Khairpur and Nausheroferoz 65.2% and 67.9% households have a specific place for hand washing where water and soap or other cleansing agent are present.<sup>104</sup>

**Table 28: Source of drinking water**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Piped Water (into dwelling house)	12	4.0	94	31.3	103	34.3	209	23.2
Hand Pump	246	82.0	96	32.0	137	45.7	479	53.2
Public tap / standpipe	26	8.7	4	1.3	39	13.0	69	7.7
Private Borehole (with motor pump)	10	3.3	97	32.3	20	6.7	127	14.1
Public Borehole (with motor pump)	6	2.0	8	2.7	0	0.0	14	1.6
Protected Well (include dug well)	0	0.0	1	.3	0	0.0	1	.1
Filtration Plan/Unit	0	0.0	0	0.0	1	.3	1	.1
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Less than one fourth of respondents (23%) in the three districts said piped water is the main source of drinking water in their homes – least in Ghotki (4%) compared to 31.3% in Khairpur and 34.3% in Nausheroferoz. However most of respondents (53%) depend on hand pumps as

<sup>103</sup> MICS 2014

<sup>104</sup> Ibid



the main source of drinking water. In Sindh 45% households depend on water motor and 28% on hand pump as the improved source of drinking water.<sup>105</sup>

**Table 29: Drainage System Information**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes, underground drains	35	11.7	74	24.7	49	16.3	158	17.6
Yes, to covered drains	12	4.0	67	22.3	23	7.7	102	11.3
Yes, to open drain	72	24.0	123	41.0	147	49.0	342	38.0
No system	181	60.3	36	12.0	81	27.0	298	33.1
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Most of the households in the three targeted districts are connected to open drain or have no drainage system. Respondents (38%) maintained their homes were connected to open drain while 33% pointed towards lack of drainage system. Lack of drainage has been reported most by 60% respondents in Ghotki. However more respondents in Nausheroferoz (49%) and Khairpur (41%) said their homes were connected to open drain than in Ghotki (24%). Of the 18% respondents in the three districts who said their homes were connected to underground drainage, the least were in Ghotki (12%). Only 11% respondents in the three districts said their homes were connected to covered drains.

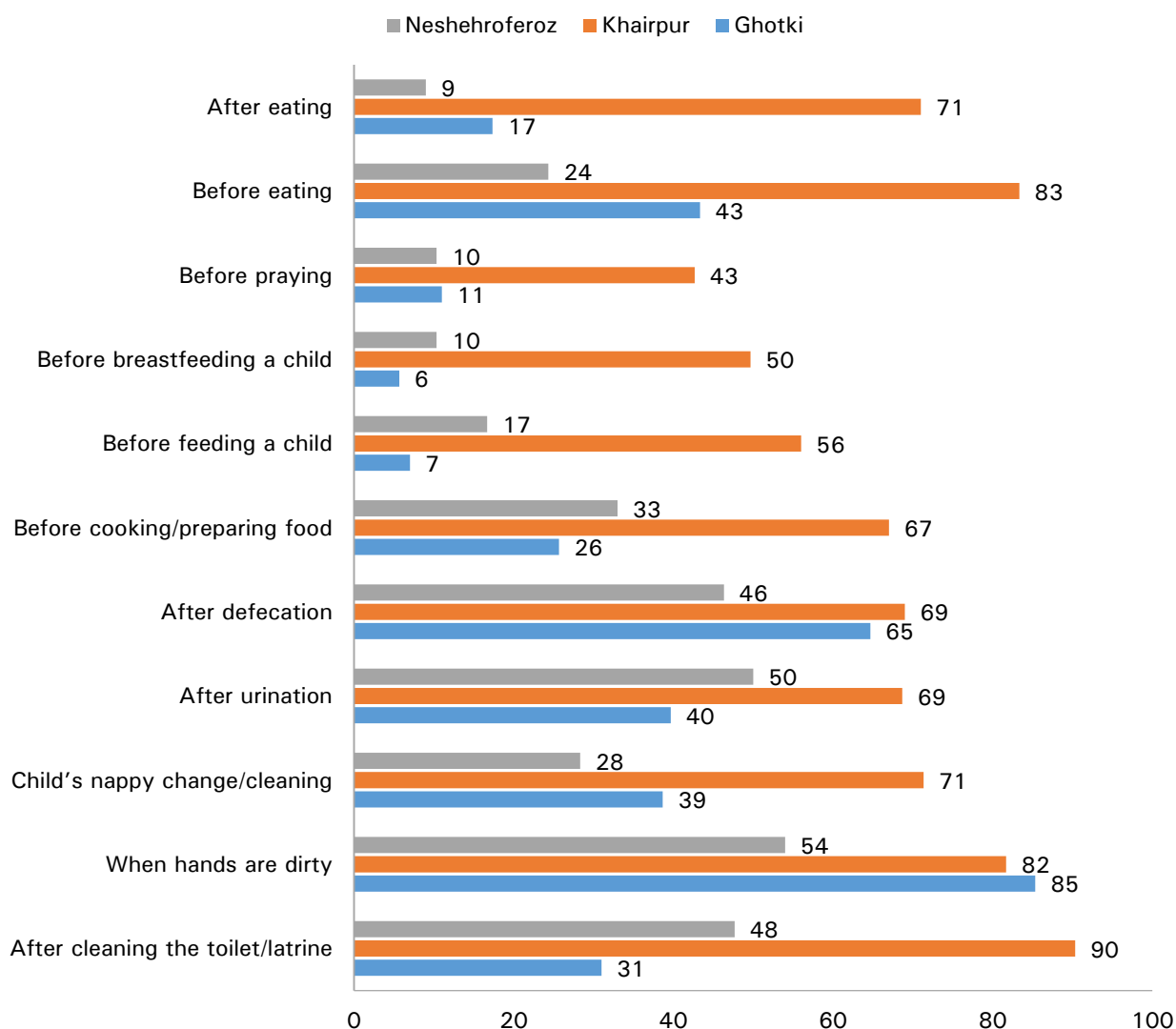
**Table 30: Disposal of Child Excreta Practices**

	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Put / Rinsed into latrine	74	24.7	58	19.3	62	20.7	194	21.6
Child used latrine himself/herself	4	1.3	10	3.3	7	2.3	21	2.3
Thrown into garbage	172	57.3	100	33.3	176	58.7	448	49.8
Covered/buried in yard	2	.7	6	2.0	9	3.0	17	1.9
Women of the household handles it	0	0.0	42	14.0	31	10.3	73	8.1
Take the child outside to	6	2.0	14	4.7	13	4.3	33	3.7
Put in open drain	44	14.7	99	33.0	15	5.0	158	17.6
thrown into street	91	30.3	104	34.7	56	18.7	251	27.9
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Half of the respondents in the three districts throw child excreta in to garbage – most in Nausheroferoz (59%) than in Ghotki (57%) and Khairpur (33%). Respondents (28%) throw child excreta into street – most in Khairpur (35%), followed by Ghotki (30%) and Nausheroferoz (19%). Only 22% respondents said they put or rinse child excreta into latrine while 18% put it in open drain. According to MICS 2014, in Sindh the place of disposal of child's feces is put or rinsed into toilet (34.6%), rinsed into drain or ditch (13.5%), and thrown into garbage (31.1%).

<sup>105</sup> PSLM 2014-15

**Figure 22: Critical Times for Hand Washing Practice (%)**



The need for washing hands with soap for most of the respondents (74%) is when their hands are dirty, followed by after defecation (60%). Using of soap for hand washing after defecation is high in Ghotki (65%) and Khairpur (69%) compared to Nausheroferoz (46%). The practice of washing hands with soap is low before eating (50%), cooking or preparing food (42%), after eating (32%), before feeding a child (27%), and before breastfeeding a child (22%). After cleaning latrine, 56% respondents use soap for hand washing, most in Khairpur (90%) and the least in Ghotki (31%). Overall in Sindh 82% households have soap or a clean agent anywhere in the house.<sup>106</sup>

During FGDs, most of the health and sanitation issues highlighted by the participants from all three districts were attributed to poor sanitation and drainage system.

*There is no proper drainage system, open drains, dirt, mosquitoes, pollution and polluted water. These cause health problems like malaria, typhoid etc. (a mother from Nausheroferoz).*

<sup>106</sup> MICS 2014

Absence of covered drains observed in all communities has been reported as a major health hazard leading to typhoid and diarrhea. Diarrhea was a common occurrence reported from the three districts.

*Defecating in the open attracts flies inside home (on food). This causes various health diseases (a mother from Ghotki).*

*We constantly have diarrhoea, and food poisoning, our children suffer from diarrhoea twice in a month (a mother from Nausheroferoz).*

*Clean drinking water is not available. Arsenic level is quite high and silent killer like mercury is also present here. Arsenic level is 130 here and 65% people are using this (ground water) (A district health manager from Khairpur).*

**Underground water** is the most common reported source of drinking water through hand pumps in all three districts. None of the respondent complained regarding quality of water except some mothers from Nausheroferoz who had heard about poor quality of water through newspapers.

*It is not satisfactory. It came into our knowledge through newspaper that it is not pure. It contains harmful elements (mothers from Nausheroferoz).*

*Underground water is clean (a mother from Khairpur).*

Practice around treatment of water across three districts was low. However three fourth of the respondents said that they give boiled water to children, especially when sick.

*We give boiled water to little children whereas we (adult) drink water from hand pump (a mother-in-law from Ghotki).*

*No, it (water) is not boiled. It is good if we boil it but it is not a practice (a mother-in-law from Khairpur).*

The **sanitation system** has been reported as very poor or absent in communities visited. Uncovered drains are common. Though the respondents said household have latrines inside but the waste from latrines collected into open and unclean drains outside homes. This adds to unhygienic conditions in the localities creating health hazards.

*Yes, we have toilets at homes. These wastes are drained to manhole outside the house which is cleaned through community participation. But initially toilet wastes passes through open drain of streets (a mother from Nausheroferoz).*

Most of the respondents cited poor drainage as one the major health and sanitation hazard in all three districts. Cleaning of drains is not regular and mostly the community itself cleans the drains.

*We get the drain pits cleaned after 1-2 months. We get it cleaned ourselves by collecting money and hiring sweeper (a mother from Ghotki).*

*Government sweepers clean this but not so regularly. If required we also pay them to clean our streets (mother-in-law from Nausheroferoz).*

Knowledge and awareness regarding hand washing with soap at critical times was good among all respondents. Respondents emphasized hand washing at critical times and confirmed its practice at home. When asked at what time they wash hands some of the responses were;

*Before eating food, after using latrines, before giving food to children, before preparing food (a mother from Ghotki)*

*Before preparing breakfast, when children come back from school we tell them to wash hands first (a mother from Ghotki).*

*Our husbands don't allow them (children) to take food without washing hands first. (a mother from Nausheroferoz).*

*For ablution, after latrine, before and after eating food (a father from Nausheroferoz)*

## 4. CONCLUSIONS

Malnutrition, a multi-faceted issue with immediate and underlying root causes, is also a governance concern related to ownership, commitment, and accountability. IYCF practices are influenced by multiple factors of personal, household, cultural, social, and economic nature. Although knowledge quotient can be readily increased through intense advocacy, a sustainable change in practice is not directly proportional. Common social practices (pre lacteal administration), household norms (bathing the baby, dry clothes etc. that delay initiation), economic constraints (not able to purchase flesh foods), advice and continuum of familial practices of feeding a child and external environment (marketing of baby food and BMS) etc. and other reasons are important in knowledge-practice gap.

Although mothers in the three districts are well aware of breast milk being best source of nutrition, this knowledge is not translated into optimal IYCF practice. There is a wide gap in knowledge and practice regarding **early initiation of breastfeeding**. For study respondents, the time divide of one hour or above is of relative nature, compared to the recommended time bracket for initiation. Any delay is usually not planned but occurs due to routine cultural, hygiene and social practices. The most frequent response received for timeframe for initiation of breastfeeding remains "*as early as we normally can*", similar across the three districts.

More than 90% of the mothers in the three districts stated breastfeeding should be started within the first 24 hours, which is higher than provincial reported breastfeeding initiation within the first day of birth<sup>107</sup>. Mothers undergoing caesarian section tend to have delayed initiation.

**Pre lacteals** administration is a cultural and social ritual. Mother, 84% in Ghotki, 86% in Khairpur and 67% in Nausheroferoz, stated breast milk should be the first intake of the newborn, and paradoxically close percentage actually did administer pre lacteals. It is important to understand that pre lacteals are not considered food per-se for newborn, but are thought a onetime ritual of nuisance value. **Colostrum** is widely accepted as first milk of great importance for the baby by 72% respondents in Ghotki, 67% in Khairpur and 63% in Nausheroferoz. The knowledge is closely correlated with the practice (65% in Ghotki, 59% in Khairpur and 61% in Nausheroferoz). Mothers (98%) of children 0-23 months reported **ever breastfeeding** the child. Only 2% mothers, who have **never breastfed** their children, reported health issues of the mother and child and no milk production as reasons.

**Exclusive Breastfeeding** is widely known by respondents as "*giving nothing but mother's milk for first six month*". The practice of exclusive breastfeeding closely relates with correct reported knowledge of type and duration recommended. Demarcation of "exclusive" and "predominant" breastfeeding is vague for almost all respondents, a finding that became strongly appreciable during the in-depth discussions with mothers. Practice of giving *qehwa*, *saunfpani*, gripe water etc. is not considered additional intake. The study exclusive breastfeeding levels (45% in Ghotki, 55% in Khairpur and 42% in Nausheroferoz) are higher than provincial and district levels.<sup>108</sup> This can be attributed to confusion regarding exclusive and predominant breastfeeding, since almost all the qualitative discussions, participants had no clear demarcation for both indicators. In Khairpur and Ghotki, female child shows a higher percentage (49% in Ghotki, 56% Khairpur) exclusively breastfed than male child (40% in Ghotki, 52% Khairpur), a trend which is reversed in Nausheroferoz (47% male & 37% female).

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<sup>107</sup> PDHS 2012-13

<sup>108</sup> MICS 2014

**Predominant Breastfeeding** rate is 17% in Ghotki, 17% in Khairpur and 22% in Nausheroferoz. Study levels are lower than the MICS 2014 reported for the provincial and district levels. The finding is relatable to the confusion regarding exclusive and predominant breastfeeding. There is also higher value for girl child being predominantly breastfed than the male child; 15% male and 18% female in Ghotki, 13% male and 21% female in Khairpur and 20% male and 24% female in Nausheroferoz were reported to be predominantly breastfed.

**Continuation of Breastfeeding** for children at one year and two years is good. High level of knowledge of continued breastfeeding till two years is noted. No gender preferential is mentioned by the respondents. In practice, girl children are more continually breastfed in the three districts - 54% male children compared to 69% female children in Ghotki, 55% male children compared to 86% female children in Khairpur, and 63% male children compared to 72% female children in Nausheroferoz were continually breastfed till one year. However for the breastfeeding till two years it is other way around - 66% male children compared to 60% female children in Ghotki, 91% male children compared to 72% female children in Khairpur, and 81% for both male and female children in Nausheroferoz were continually breastfed till two years. FGD participants strongly supported continued breastfeeding for up to 2 years irrespective of the child's gender.

**Bottle Feeding** is initiated along with breast milk for the majority of children with advancing age. The perceived benefits of bottle feeding include ease of administration, improved health of mothers, meeting increased nutrient demand of child, and possibility of continuation up to 5 years lead to methodical introduction of bottle feeding along with continued breastfeeding. Observed bottle feeding rates are found to be slightly lower than the documented provincial and district level, which can be attributable to study limitation of using LHWs for reaching to the target population. In Ghotki, 27% children of 0-6 months of age, 37% of 7-12 months, 28% of 13-18 months, and 8% above 18 months of age are bottle fed. In Khairpur, 27% children of 0-6 months of age, 30% of 7-12 months, 30% of 13-18 months, and 14% above 18 months of age are fed using a bottle. In Nausheroferoz, 17% children of 0-6 months of age, 28% of 7-12 months, 30% of 13-18 months, and 26% above 18 months of age are bottle fed. There is a rise in bottle feeding rate around 6 months which continues up till 18 months and then registers drop.

Foods other than milk are gradually introduced in progressively increasing quantity and frequency to ensure a child's growing energy and nutrient requirements are met. **Timely Complementary Feeding** rate is 55% in Khairpur, followed by 50% in Ghotki and 45% in Nausheroferoz. Knowledge regarding the critical time for introduction of semisolid food varied among respondents. Common range was defined 4-7 months. Almost half of the respondents stated that the optimal time of weaning is right at or closely after 6 months. *Kichri, daliya, kheer* are commonly given meals for introducing soft food. A large consumption of commercially prepared, easy to make food for children (Cerlac®) is noted. In the absence of the effective implementation of regulations regarding BMS and commercial infant food, the influence of strong marketing and sale remains unregulated.

**Minimum Dietary Diversity** is worryingly low in the districts (6-23 months age). Only 2.9% children from Ghotki, 2.5% from Khairpur and 3.5% from Nausheroferoz fulfill the minimum dietary diversity criteria, which is even less than reported average for the district and province levels. Female children show a comparatively higher percentage for minimum dietary diversity in Khairpur (3.3%) and Nausheroferoz (4.8%) compared to male children (1.8%) in Khairpur and 2.5% in Nausheroferoz); a reverse is noted in Ghotki with minimum dietary diversity being 3.7% for boys and 2% for girls.

Tubers, grains, and roots are the most common food group offered to children. Legumes, nuts, flesh foods, and fruits are less commonly given. Poverty and lack of purchasing power are stated reasons for poor dietary diversity. However there is no major difference for low or middle income bracket. Dietary diversity is related to “high” income group appreciably. This finding again needs further investigation, keeping in view small study subpopulation of “high” income group.

**Minimum Meal Frequency** is also very low in the three districts in both breastfed and non-breastfed subgroups. **Minimum Acceptable Diet** is a derived indicator for proportion of children (6-23 month of age) who receive a diet fulfilling the criteria for both Minimum Dietary Diversity and Minimum Meal Frequency. Children receiving minimum acceptable diet are critically low at 0.48% in Ghotki, 0.99% in Khairpur and 2.12% in Nausheroferoz.

Similarly, **Iron rich or iron fortified food consumption**, for children 6-23 months, is low at 13% for Ghotki, 11% Khairpur and 17% for Nausheroferoz. Poverty and lack of purchasing power are reported primary causes for low administration of iron rich food. FGDs participants opined flesh foods are consumed sparingly compared to grains and vegetable mainly due to lack of affordability. For flesh foods, there is no preference depicted on the basis of gender; equal or higher percentage is noted for female children receiving flesh food compared to male children. Positively, girl children show a higher percentage of consumption of iron rich food in the three districts – 15% girls in Ghotki compared to 10% boys, 13% girls in Khairpur compared to 10% boys and 18% girls in Nausheroferoz compared to 16% boys.

Primary **information sources** regarding IYCF are health care service providers, namely LHWs, doctors, nurses etc. Health professionals’ health promotion messaging is considered “reliable information”. Elders and family members are also prominent information and guidance source for mothers. Mothers emphasized IYCF related decisions are primarily taken by them and to a lesser extent by both the parents.

**IYCF Health Service delivery** is affected by limitation of experienced human resource especially community and extension workers; budgetary constraints; political pressure; poor inter-sectoral coordination, and unmet need of tailored behaviour change communication training and materials. LHWs are crucially placed in promotion of IYCF. Wide LHW uncovered areas, financial constraints of LHW program, and lack of focused training and materials are undermining the reach and effectiveness of LHW.

Knowledge regarding the Protection of Breastfeeding and Young Child Feeding law in Sindh is low among service providers. Effective implementation of the law is still missing. Multi-sectoral planning and implementation with inter-sectoral monitoring for improved nutrition is considered a promising plan of action which is still in the early implementation phase. BMS are frequently prescribed by the medical practitioners and all respondent sections (mothers, fathers and mothers-in-law) reiterated they use BMS when prescribed. Caesarean delivery is one of the most common reasons cited for consumption of BMS.

**WASH** is closely linked to malnutrition. WASH indicators are notably poor for the study districts. Less than one fourth of respondents (23%) in the three districts said piped **water** is the main source of drinking water in their homes. However most of respondents (53%) depend on hand pumps as the main source of drinking water. Issues of the quality of drinking water are raised by the community respondents. Public health officials in the three districts expressed concerns regarding poor availability safe drinking water and level of poisonous chemicals in the supplied water.

Disposal of solid and liquid waste is unsafe. Two-thirds of the respondents (66%) in the three districts said they have a latrine inside their homes with reported variations within the three districts. Open defecation is widely prevalent. Drainage system for collection of waste through covered drains opening to proper drainage system for safe disposal is lacking. Respondents (38%) maintained their homes were connected to open drain while 33% pointed towards lack of drainage system. Only 11% respondents said their homes were connected to covered drains. Respondents showed high knowledge of effects of improper disposal of waste, and mostly held civic authorities responsible for it. Child excreta is either thrown into the drain, or disposed of along with other house waste. FGD participants termed the sanitation system improper. Hygiene conditions are largely compromised and disease outbreaks are a common occurrence. Knowledge regarding hand washing with soap at critical times was good among all respondents. Respondents emphasized the importance of hand washing at critical times and confirmed its practice at home. Participants are well aware of importance of washing hands after urination/ defecation, before feeding the child, after cleaning the child etc. Almost half of the respondents said they have a hand washing station available in their homes.



## 5. RECOMMENDATIONS

This study is a pre-intervention KAP survey so recommendations are made with the vision to support a gender sensitive programmatic approach.

- Mothers identified community level health service providers and elders as primary source of information. Health service provider in general and community health service providers in particular should receive focused training on IYCF support, promotion and protection. Targeted advocacy should be directed at most often stated sources of information for mothers.
- Close coordination with MSNS (Multi-sector Nutrition Strategy) sectors and concerned departments is instrumental to effectively address malnutrition. The potential collaboration can be developed in many action areas:
  - WASH – improved provision of safe and clean drinking water, hand washing promotion, liquid and solid waste management, latrines connected to covered drains, eliminating open defecation, provision of Water, Sanitation & Hygiene in schools and food and personal hygiene etc.
  - Agriculture & Social Sectors – kitchen gardening promotion, small scale iron fortification etc.
- It is important to develop a gender-sensitive Behavior Change Communication Strategy by working closely with concerned stakeholders (community, district, and provincial) and creating specialized messages for women, men, girls and boys. Priority areas for intervention should be clearly identified and targeted approach to be employed. Few key areas for work can be:
  - Feeding Colostrum– a positive response of knowledge leading to practice
  - Early initiation of breastfeeding –importance of first hour
  - Clarifying fads and misconceptions e.g. no or insufficient milk
  - Delay in breastfeeding initiation after caesarian section
  - Exclusive breastfeeding etc.
  - Improved WASH knowledge, practices etc.
    - Hand washing at two critical times; after coming in contact with feces and before eating/ feeding a child
    - Eliminating open defecation and construction/ usage of latrine
- Safe disposal of child feces BCC strategy should emphasize uniformity of messages by all cadres of service providers. e.g. use of BMS. A consensus of key stakeholders for uniform messaging should be facilitated.
- Priority areas of intervention identified are promotion of Dietary Diversity and Meal Frequency, which should be prioritized ‘action areas’ in provincial and district nutrition plans. Low macro and micronutrients deficiency due to poor dietary diversity and inadequate meal frequency are the primary cause of malnutrition and stunting. Few substantial support domains are:
  - Macronutrients – energy rich foods and recipes, new or updated combination of food groups in one meal – food platter conceptualization
  - Protein – promoting use of locally available and affordable vegetable based proteins, mixing of lentils and legumes

- Micronutrients – Vitamins – mixing of vegetables, avoiding loss of vitamins and minerals, fortification, micronutrient sachets (multi micronutrient sachet) for use
  - Iron fortification, -supporting public and private initiatives for iron fortification; large scale fortification as well as chakki or small scale fortification for iron and other nutrients
  - Prevention of iron and nutrient loss by optimizing food hygiene, handling and preparation through advocacy e.g. water soluble vitamin loss by excessive soaking, using chai having tannins which prevent absorption & digestion of nutrients etc.
  - Use of food that give high iron e.g. liver, vegetable based iron, recipes for increased iron content using locally available and affordable food items
  - Use of cooking demonstration, recipe competition at community (e.g. at health house of LHWs) for introducing enriched affordable meals
- Support to service providers for seamlessly packaging of relevant services for improved IYCF e.g. sanitation promotion, family planning, vaccination etc.
  - New ways should be explored to improve food sufficiency locally and to maximize utilization e.g. kitchen gardening, reduce peeling wastage of vegetables, no overcooking of meals to save nutrient value etc.

***Other recommendations:***

- IYCF laws (BMS code) and infant food regulations should be implemented effectively at district level.
- LHWs should be recruited for deployment in currently uncovered areas, especially in prioritized districts. Community based workforce (e.g. CHWs) with select services e.g. nutrition etc. can be explored in LHWs uncovered areas. Close coordination and support to the provincial and district authorities on improved service provision, engagement and wider coverage by LHWs.
- Provision of clean safe drinking water with proper solid and liquid waste management should be prioritized in affected districts.

## **ANNEXES I – Quantitative Tool**

Serial Number:     \_ | \_ | \_ | \_

# UNICEF–KAP Survey on Infant and Young Child Feeding Practices and Behaviors

December 2016



**APEX Consulting Pakistan**

FGD Label/Code:     |\_|\_|\_| (For office use)

## تعارف

السلام وعلیم۔ میرا نام۔۔۔۔۔۔۔۔۔۔۔۔ ہے۔ ہم ایک پرائیویٹ کنسلٹنٹ کمپنی، بیسیس کنسلٹنٹ پاکستان اور وزارتِ صحت، سندھ

کے تعاون سے یہ سروے کر رہے ہیں۔ ہم اس وقت بچوں کو ماما کا دودھ پلانے کے بارے میں معلومات اکٹھا کر رہے ہیں۔ اس سروے کا مقصد لوگوں میں دودھ پلانے کے متعلقہ معلومات، انکار و بہاؤ طریقہ کار کے متعلق جاننا ہے۔ میرے پاس ایک سوالنامہ ہے جس میں چند آسان سوالات ہیں۔ اس کا میں آپ کے 25 سے 30 منٹ صرف ہوں گے۔ آپ کی شمولیت رضا کارانہ ہے۔

میں آپ کی بہت شکر گزار ہوں گا اگر آپ ہمارے ساتھ تعاون کریں۔ اس سروے سے آپ کو براہِ راست تو کوئی فائدہ نہیں ہو گا لیکن آپ کے دیے گئے جوابات سے ہمیں ماں اور بچے کی صحت سے متعلق پلاننگ میں آسانی ہوگی۔ آپ کے تمام جوابات کو مکمل رازداری میں رکھا جائے گا جنہیں ہم صرف اپنی تحقیق کے لیے استعمال کریں گے۔ اگر آپ کو کوئی سوال سمجھ نہ آئے تو آپ مجھ سے دوبارہ پوچھ سکتی ہیں۔ اگر آپ کی اجازت ہو تو انٹرویو شروع کریں؟

### Verbal Consent

Yes:

No:

SECTION I. GEOGRAPHICAL IDENTIFICATION		
Q101	Date of Interview (DD/MM/YYYY)	___:___:___
Q102	Start Time (am/pm)	___:___
Q103	Code of Interviewer:	_ _
Q104	Code of Supervisor:	_
Q105	District Name:	
Q106	Tehsil Name:	
Q107	Union Council Name:	
Q108	Revenue Village / Block Name	

SECTION II. RESPONDENT AND HOUSEHOLD PROFILE		
Respondent Profile		
Q201	Respondent Name:	
Q202	Age	_ _  in Complete Years
Q203	Marital Status (single response)	Married.....1 Divorced.....2 Widow.....3 Separated.....4
Q204	Education (single response)	Illiterate.....1 Primary.....2 Middle.....3 Matric.....4 FA/FSc.....5 BA/BSc.....6 Master.....7 M.Phil/Ph.D.....8

		Other (specify).....9
Q205	Contact Number:	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _
Q206	What was your age at the time of marriage?	_ _  Years
Q207	What was your age at the time of first delivery?	_ _  Years
Q208	How many living male children do you have?	_ _  Boys
Q209	How many living female children do you have?	_ _  Girls
Q210	What is the age of your youngest child? (should be less than 24 months)	_ _  Months
Q211	Child's Father's Occupation (single response)  Mother's occupation?	Unemployed.....1 Farmer.....2 Seasonal worker.....3 Student.....4 Shepherd.....5 Private Job.....6 Government Job.....7 Housekeeping .....8 Handicrafts.....9 Self-employed.....10 Others (specify).....11 Not applicable.....12
<b>Household Profile</b>		
Q212	Total number of household members:	_ _ _  Number
Q213	Total number of male members:	_ _ _  Number
Q214	Total Number of female members:	_ _ _  Number
Q215	Average monthly income of household (single response)	Less than 5,000.....1 > 5,000- < 10,000.....2 > 10,000- < 15,000.....3 > 15,000- < 20,000.....4 > 20,000- < 25,000.....5 > 25,000- < 30,000.....6 > 30,000- < 35,000.....7 > 35,000- < 40,000.....8 > 40,000- < 45,000.....9 > 45,000- < 50,000.....10 > 50,000- < 55,000.....11 > 55,000- < 60,000.....12 > 60,000.....13 Don't know.....14
Q216	Do you have toilet in your household? (If No, go to Q218)	Yes.....1 No.....2

Q217	If yes, what is type of toilet? <b>(single response)</b>	Flush connected to public sewerage .....1 Flush connected to pit .....2 Flush connected to open drain .....3 Dry raised latrine .....4 Dry pit latrine .....5
Q218	Is hand washing station (hand washing places) available in your household?	Yes.....1 No.....2
Q219	What is the main source of drinking water for the household? <b>(single response)</b>	Piped Water (into dwelling (house) .....1 Hand Pump .....2 Public tap / standpipe.....3 Private Borehole (with motor pump) .....4 Public Borehole (with motor pump) .....5 Protected Well (include dug well) .....6 Unprotected well (include dug well) .....7 Rainwater collection .....8 Bottled water.....9 Filtration Plan/Unit.....10 Other (specify).....11
Q220	Is your house connected with drainage / sewerage system? <b>(single response)</b>	Yes, underground drains .....1 Yes, to covered drains .....2 Yes, to open drain .....3 No system .....4
Q221	What are the common practices related to disposal of a child's excreta? <b>(multiple response - circle all applicable)</b>	Put / Rinsed into latrine.....1 Child used latrine himself/herself.....2 Thrown into garbage.....3 Covered/buried in yard.....4 Women of the household handles it.....5 Take the child outside to wash.....6 Put in open drain.....7 Thrown in streets.....8

**SECTION III. KNOWLEDGE REGARDING BREASTFEEDING & COMPLEMENTARY FEEDING**

Q301	Do you know what feed should be given to a newborn? <b>(single response)</b>	Breast Milk.....1 Formula Milk.....2 Cow/Goat Milk.....3 Other (specify).....4 Don't Know.....5
Q302	Do you know what the advantages of breastfeeding are? <b>(multiple response - circle all applicable)</b>	Gives infants all nutrients.....1 Protect infants from common childhood illnesses...2 Readily available and affordable .....3 Exclusive breastfeeding is associated with a natural (though not fail-safe) method of birth control.....4 Reduces risks of breast and ovarian cancer .....5 Reduces type II diabetes, and postpartum depression.....6 Contributes to a lifetime of good health.....7

		Others (specify).....8 Don't know .....9
Q303	Do you know when after the birth a mother should start breastfeeding the newborn? <i>(If answer is one day write 24 hours and same like for 2 days write 48 hours)</i>	_ _  Hours (Enter 99 if Don't Know)
Q 304	Do you know what should be the first intake for the newborn? <b>(single response)</b>	Mother's Milk/Colostrum.....1 Ghuti.....2 Honey.....3 Water.....4 Others (specify).....5 Don't know.....6
Q305	Do you know the yellow thick liquid produced right after birth (colostrum) should be given to the newborn?	Yes.....1 No.....2 Don't know.....3
Q305a	If Yes, what are the reasons? <b>(multiple response - circle all applicable)</b>	It is a source of strength for the newborn.....1 Safest intake for the newborn.....2 Boost newborn's immune system.....3 Easily digested.....4 Nutritious.....5 Beneficial for mother's health.....6 Don't know.....7
Q305b	If No, what are the reasons?	Poisonous.....1 Not fit for baby.....2 Distasteful.....3 Non digestible.....4 Other (specify).....5
Q306	Do you know what exclusive breastfeeding is? <b>(single response)</b>	Breastmilk alone till 6 months.....1 Breastmilk and water.....2 Breastmilk predominantly (with formula or animal source milk).....3 Breastfeeding along with other feeding.....4 Others (specify).....5
Q307	Do you know for how long an infant should remain on exclusive breastfeeding?	_ _  Months (Enter 99 if Don't Know)
Q308	Should the child be breastfed during mother's illness?	Yes.....1 No.....2 Don't know.....3
Q309	Should the child be breastfed during child stomachache?	Yes.....1 No.....2 Don't know.....3
Q310	Should the child be breastfed during diarrhea?	Yes.....1 No.....2 Don't know.....3
Q311	Should the child be breastfed while received vaccination injections?	Yes.....1 No.....2



		Don't know.....3
Q312	Should the child be breastfed during subsequent pregnancy phase?	Yes.....1 No.....2 Don't know.....3
Q313	Should the child be breastfed during other infection?	Yes.....1 No.....2 Don't know.....3
Q314	Do you know how many times a child should be breastfed in a day (24 hrs day + night)? <b>(single response)</b>	Whenever the baby is hungry.....1 Every after 2 hours .....2 After every 3 to 4 hours.....3 After every 5 to 6 hours.....4 Don't Know.....5
Q315	At what age should semisolid/soft foods be introduced to the baby? (weaning)	_ _  Months (Enter 99 if Don't Know)
Q316	Do you know for how long breastfeeding should continue along with other semisolid/soft foods?	_ _  Months (Enter 99 if Don't Know)
Q317	Do you know what kind of semisolid food/soft foods/other foods should be given to a child along with mother's milk? <b>(multiple response - circle all applicable)</b>	Cerelac.....1 Porridge .....2 Egg.....3 Bread.....4 Rice .....5 Vegetables (which one, name) .....6 Fruits (which one, name) .....7 Meat (which one, name) .....8 Fish.....9 Yogurt.....10 Formula milk .....11 Goat/cow's milk .....12 Butter .....13 Cheese .....14 Tea .....15 Other (specify) .....16
Q318	Do you know how many times a child should receive semisolid food in a day (24 hrs day + night)?	Whenever the baby is hungry.....1 One to two times.....2 Three to four times.....3 Five to more times.....4 Don't Know.....5 Others (specify).....6
Q319	What is the source of information? <b>(multiple response - circle all applicable)</b>	Television.....1 Radio.....2 Newspapers.....3 Internet.....4 Poster.....5 Banner.....6 Puppet Shows.....7 Street Theaters.....8 LHW Meeting.....9 Medical Doctors.....10 Health Service Providers.....11

		Dai (TBAs) .....12 Others (specify).....13
Q320	Do you know, what are those critical times when you need to wash your hands with soap? <b>(multiple response - circle all applicable)</b>	After cleaning the toilet/latrine.....1 When hands are dirty.....2 Child's nappy change/cleaning.....3 After urination.....4 After defecation.....5 Before cooking/preparing food .....6 Before feeding a child.....7 Before breastfeeding a child.....8 Before praying.....9 Before eating.....10 After eating.....11 Others (specify) .....12
<b>SECTION IV. ATTITUDE REGARDING BREASTFEEDING &amp; COMPLEMENTARY FEEDING</b>		
Q401	In your opinion when a mother should start breastfeeding after the birth?	Within one hour One to five hours Five to ten hours Ten to fifteen hours Fifteen to twenty hours After one day Other (specify)
Q402	In your opinion the mother's milk produced right after the birth should be given to the newborn? <b>(If No, go to Q404)</b>	Yes.....1 No.....2 Don't know .....3
Q403	If Yes, what are the reasons? <b>(multiple response - circle all applicable)</b>	It is a source of strength for the newborn.....1 Safest intake for the newborn.....2 Boost newborn's immune system.....3 Easily digested.....4 Nutritious.....5 Beneficial for mother's health.....6 Others (specify).....7
Q404	If No, what are the reasons? <b>(multiple response - circle all applicable)</b>	It is not good hygienically.....1 This milk is not meant as feed.....2 This is not easily digested.....3 The risk of children becoming sick.....4 Others (specify).....5
Q405	In your opinion what should be the first intake for the newborn? <b>(single response - circle all applicable)</b> <b>(If answer = 1, go to Q407)</b>	Mother's Milk/Colostrum.....1 Guthi.....2 Honey.....3 Water.....4 Saliva of some elder.....5 Saunf Water.....6 Salt Water.....7 Brown Sugar Water.....8 Ark-e-Gulab.....9 Ab-e-ZamZam.....10 Fresh Animal Milk.....11 Tea/Kehwa.....12 Cerelac.....13 Other (specify).....14

Q406	If the answer is other than the mother's milk, what are the reasons? <b>(multiple response - circle all applicable)</b>	Local/family customs.....1 Religious reasons.....2 This milk is poisonous.....3 It is not good hygienically.....4 This milk is not meant as feed.....5 This is not easily digested.....6 The risk of children becoming sick.....7 Advise by mother in law.....8 Others (specify).....9
Q407	In your opinion at what age soft food for an infant should be started? <b>(If answer is greater than 6 months, go to Q409)</b>	_ _ _  Months (Enter 99 if Don't Know)
Q408	If the answer is other than 'earlier six months', what are the reasons? <b>(multiple response - circle all applicable)</b>	Mothers' milk is not enough for baby's need.....1 More nutrients .....2 Not enough milk.....3 Mother is sick.....4 Child sickness/weak.....5 Others.....6 Don't know.....7
Q409	In your opinion for how long an infant should be exclusively breastfed?	_ _ _  Months (Enter 99 if Don't Know)
Q410	In your opinion how many times a child should be breastfed in a day (24 hours day + night)?	Whenever the baby is hungry.....1 One to two times.....2 Three to four times.....3 Five to more times.....4 Don't Know.....5 Others (specify).....6
Q411	In your opinion for how long breastfeeding should continue along with other soft foods? <b>(If answer = 24 months then go to Q413)</b>	_ _ _  Months (Enter 99 if Don't Know)
Q412	If the answer is less than '24 months, what are the reasons? <b>(multiple response - circle all applicable)</b>	Breast problems.....1 Health of the mother.....2 Health of the children.....3 Subsequent pregnancy.....4 Working mother.....5 Others (specify).....6
Q413	In your opinion what kind of soft foods /other feed should be given to a child along with mother's milk? <b>(multiple response - circle all applicable)</b>	Cerelac.....1 Porridge .....2 Egg.....3 Bread.....4 Rice .....5 Vegetables (which one, name).....6 Fruits (which one, name).....7 Meat (which one, name).....8 Fish .....9 Yogurt.....10

		Formula milk .....11 Powdered milk .....12 Butter .....13 Cheese .....14 Other (specify).....15
Q414	In your opinion how many times a child should be given soft food in a day (24 hour day + night) along with milk (meal frequency)	Whenever the baby is hungry.....1 One to two times.....2 Three to four times.....3 Five to more times.....4 Don't Know.....5 Others (specify).....6
Q415	In your opinion, Is infant formula milk replacement of mother's milk? (If No, then go to Q501)	Yes.....1 No.....2 Don't Know.....3
Q416	If Yes, what are the reasons? (multiple response - circle all applicable)	Additional Nutrients are added.....1 More easily digestible.....2 Easier to administer.....3 Advised by doctor.....4 Mother is busy/working.....5 Other (specify) .....6

## SECTION V. BREASTFEEDING & COMPLEMENTARY FEEDING PRACTICES

### Initiation of Breastfeeding Module

Q501	Total number of respondent's children under 24 months: اب ہیں آپسے آپ کے تمام بچوں کو ماں کا دودھ پیلانے کے بارے میں کچھ سوال کروں گی۔ (نوٹ: جو بچے زندہ ہیں اور سب سے کم عمر والے بچے سے شروع کریں۔ عمر کے مہینوں کو راونڈ کر کے لکھیں اگر آخری بچے ایک سے زیادہ ہوں تو دوسرے بچوں کے لیے صرف سیکشن چار اور پانچ فل کریں۔)	_
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	Q502	Q503	Q504	Q505	Q506	Q507
Sr. #	Name of Child	Age (In complete months)	Sex Male = 1, female = 2	Have you started giving semisolid/soft foods to the baby? (yes = 1, No = 2)	If yes, in which month started (month)	If child is more than six months old, then ask, not started, why? 1 = child is too weak 2. social norms 3 other (specify)
1						
2						
3						
4						
5						

Q508	Who makes the decision about feeding choice of the (name) baby? (multiple response - circle all applicable)	Mother.....1 Father.....2 Both parents.....3 Other.....4
Q509	Did you ever breastfeed (name)? (If Yes then go to Q511)	Yes.....1 No.....2
Q510	(If never breastfeed child) why? (multiple response - circle all applicable)	Medical problem of mother.....1 Medical problem of baby.....2 Milk did not flow.....3 Breast problem.....4 Mother is working and don't have time.....5 Others (specify).....6
Q511	Do you still breastfeed the child? If No then go to Q513	Yes.....1 No.....2
Q512	If Yes (continued breastfeeding), How many times in day & night (last 24 hrs)	_ _
Q513	If No, give reason	Subsequent Pregnancy.....1 Insufficient Milk.....2 Baby does not drink anymore.....3 Bad Health of Mother.....4 Others (specify).....5
Q514	Did you give the (name) thick milk (colostrum) that comes right after the birth? (If Yes then go to Q516)	Yes.....1 No.....2
Q515	(If No in Q510), what was the reason? (multiple response - circle all applicable)	It is not good hygienically.....1 This milk is not meant as feed.....2 This is not easily digested.....3 Milk did not flow right after the delivery.....4 Breast problem right after the delivery.....5 Others (specify).....6
Q516	What was the first intake given to (name of last child) right after the birth? (single response)	Guthi.....1 Saliva of some elder.....2 Honey.....3 Water.....4 Saunf Water.....5

		Salt Water.....6 Brown Sugar Water.....7 Ark-e-Gulab.....8 Ab-e-Zam.Zam.....9 Fresh animal milk.....10 Formula milk.....11 Tea/Kehwa.....12 Others (specify).....13
Q517	How long after birth did you first put (name) to the breastfed? (If less than 1 hour, record '00' hours) (if less than 1 hour than go to Q519)	Before 1 hour During 2 <sup>nd</sup> hour During 3 <sup>rd</sup> hour Other (specify)
Q518	If more than 1 hour, what was the reason? (multiple response - circle all applicable)	Medical problem of mother.....1 Medical problem of baby.....2 Milk did not flow.....3 Breast problem.....4 Doctor prescribed formula milk.....5 Mother was not informed to do so.....6 Others (specify).....7

Infant and Young Child Feeding Module					
Q519	Was (name) given milk (breast, formula, cow, etc.) during the last 24 hours (day + night)? (If No, then go to Q521)	Yes.....1 No.....2			
Q520	If Yes, then what was the mode of feeding and how many times? (multiple response - circle all applicable)	Exclusive Breast milk .....1 Mixed (breast milk with animal or formula milk).....2 Bottle fed.....3 With spoon.....4 With cup.....5 Breastfed by another woman.....6 Other (specify).....7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q521	Was (name) given any vitamin drops or other medicines as drops during the last 24 hours?	Yes.....1 No.....2			
Q522	Was (name) given ORS during the last 24 hours?	Yes.....1 No.....2			
Q523	Next I would like to ask you about some liquids that (NAME) may have had yesterday during the day or at night. <b>Did (NAME) have any (item from List)?</b> <i>Read the List of Liquids starting with 'plain water'.</i>				
	<b>Liquids Name</b>	<b>Yes</b>	<b>No</b>	<b>DK</b>	<b>Frequency</b>
A	Plain water?				
B	Infant formula? e.g. lactogen, infamama				

C	Milk such as tinned, powdered?? e.g. Nedo				
D	Fresh animal milk (cow/goat)?				
E	Juice or juice drinks?				
F	Clear broth?				
G	Yogurt?				
H	Thin porridge?				
I	Any other liquids				
J	If others (please specify)				

**Food Groups**

**Please describe everything that (NAME) ate yesterday during the day or night, whether at home or outside the home.**

Think about when (NAME) first woke up yesterday. Did (NAME) eat anything at that time? If yes: Please tell me everything (NAME) ate at that time. Probe: anything else? Until respondent says nothing else. If no, continue to Question b).

b) What did (NAME) do after that? Did (NAME) eat anything at that time? If yes: Please tell me everything (NAME) ate at that time. Probe: anything else? Until respondent says nothing else. Repeat Question b) above until respondent says the child went to sleep until the next day. if respondent mentions mixed dishes Like a porridge, sauce or stew, probe:

c) What ingredients were in that (Mixed dish)? Probe: anything else? Until respondent says nothing else. As the respondent recalls foods, underline the corresponding food and circle '1' in the column next to the food group. If the food is not listed in any of the food groups below, write the food in the box labeled 'other foods'. If foods are used in small amounts for seasoning or as a condiment, include them under the condiments food group.

Once the respondent finishes recalling foods eaten, read each food group where '1' was not circled, ask the following Question and circle '1' if respondent says yes, '2' if no and '8' if don't know:

Q524	Did (name) eat any solid, semi-solid, or soft commercial prepared foods during last 24 hours (day + night)? <b>(if No then go to Q527)</b>	Yes.....1 No.....2			
Q525	If Yes, How many times child ate during last 24 hours (day + night)?	_ _  Numbers			
Q526	What solid semi solid or soft commercial prepared foods baby eat during last 24 hours (day + night)?				
	<b>Food Groups</b>	<b>Yes</b>	<b>No</b>	<b>Don't Know</b>	<b>Frequency</b>
A	Grain:Porridge, bread, roti, rice, noodles, or other foods made from grains; Roots vegetables; Tubers: ( <i>aalo, shalgam, pyaz,etc</i> )				
B	Legumes and nuts (peas, beans, <i>lobia, badaam</i> , nuts etc)				
C	Dairy Products (milk, yogurt, cheese..etc)				
D	Flesh foods (meat, fish, poultry and liver/organ meats)				
E	Eggs				
F	Vitamin -A rich fruits and Vegetables (carrots, apples, <i>shimlamirch, shaker qandi, papita</i> )				
G	Other fruits and Vegetables				

H	Other Foods:
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Q 527	What hygienic precautions do you take before giving food to the child? <b>(multiple response - circle all applicable)</b>	Wash Hands.....1 Wash vegetables.....2 Boil water.....3 Wash and Boil vegetables.....4 Wash fruits.....5 Boil milk.....6 Wash bottle in hot water.....7 Drying bottle before filling it with milk.....8 Checking expiry date on child food products.....9 Others (please specify).....10
Q528	Are you still breastfeeding (name)? (If Yes, then go to Q531)	Yes.....1 No.....2
Q529	If no, when did you stop breastfeeding (name)?	_ _  Months
Q530	Who made the decision about discontinuing breastfeeding (name)? <b>(multiple response - circle all applicable)</b>	Myself.....1 I and my husband.....2 Husband .....3 In-laws .....4 Others (specify).....5
Q531	If yes, for how long you plan to breastfeed (name)?	_ _  Months
Q532	Who will make the decision about weaning off (name)? <b>(multiple response - circle all applicable)</b>	Myself.....1 I and my husband.....2 Husband .....3 In-laws .....4 Others (specify).....5
Q533	What are those critical times when you wash your hands with soap? <b>(multiple response - circle all applicable)</b>	After cleaning the toilet/latrine.....1 When hands are dirty.....2 Child's nappy change/cleaning.....3 After urination.....4 After defecation.....5 Before cooking/preparing food .....6 Before feeding a child.....7 Before breastfeeding a child.....8 Before praying.....9 Before eating.....10 After eating.....11 Others (specify).....12

Time End: \_\_\_:\_\_\_ am/pm.

Fully Interviewed:

Yes:

No:

Thank you very much for your kind cooperation and spending your valuable time with me.



## **ANNEXES II – Qualitative Toolkit**

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# Pre and Post KAP Survey on Infant and Young Child Feeding Practices and Behaviors

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## QUALITATIVE DATA COLLECTION TOOLKIT

Islamabad, Pakistan | January 05, 2017



**APEX Consulting Pakistan**

Code: |\_\_|\_\_|\_\_| (For office use)

## GUIDELINES FOR KEY INFORMANT INTERVIEWS (All Districts)

### SECTION I: INTERVIEW LOG

The following information should be recorded on the note-taking sheet before the start of the interview:

Basic Information	
Date:	District:
Name of Interviewee:	Designation:
Mobile No.:	Email ID:
Name of Interviewer:	Signed by Interviewer:

### SECTION II: INTRODUCTION AND INFORMED CONSENT

Asalaam Alikum, I am \_\_\_\_\_, representing **APEX Consulting** - a consultancy firm registered in Pakistan. Apex has been commissioned by UNICEF with the consent/in collaboration of department of health, Sindh to undertake a research study to determine Knowledge, Attitude, and Practice of Infant and Young Child Feeding among the population of districts Khairpur, Ghotki and Nausheroferoz.

We thank you for your time today. We expect the interview to take around 30 minutes of your time. We shall document the key points of our discussion, and shall ensure confidentiality of the information shared. Please feel free to specify should you not wish to be directly quoted on any information. We seek your consent to allow us to use this discussion and/ or interpretation for our report.

### SECTION III: QUESTIONS TO BE FOCUSED DURING THE INTERVIEW

<b>1. What, according to you, are the major achievements and challenges in IYCF and WASH in the country/region/district?</b> <i>Explore details around: service delivery, procurement, supply chain management, health education, budget allocation and expenditure, regional/geographical, socio-cultural and other disparities, human resource, infrastructure and accessibility of services (probe responses related to IYCF and WASH)</i>
<b>2. What are the government programs/strategies that address these challenges?</b> <i>Probe for specific issues (IYCF and WASH related) – especially the challenges mentioned in response to the previous question.</i>
<b>3. How do you monitor and evaluate the effect of services on the lives of people?</b> <i>Explore details around: monitoring-who is responsible, frequency of monitoring, method/tools, reporting, how the findings are utilized; is there any mechanism for feedback from communities/accountability.</i>
<b>4. What tools/communication materials, if any, are currently used? How effective are these tools/materials? What is the additional requirement?</b> <i>Explore what are the types of material being used (focus on IYCF and WASH related material); how is effectiveness of material assessed? Explore gaps, material requirements, evidence gaps etc.</i>
<b>5. Do you know about Protection of Breastfeeding &amp; Young Child Nutrition law?</b> <i>Do you think it is well implemented? (Country, province, district, facility); what are the major challenges in effective implementation &amp; also suggest the measures which can strengthen its effective implementation?</i>
<b>6. What, according to you, are the main barriers and facilitators of child feeding in the community?</b> <i>Explore socio-cultural barriers, financial barriers and service delivery; do mothers receive any nutrition education during pregnancy and after delivery; Explore financial status, access to food, income and household setup etc as a facilitators of child feeding practice</i>
<b>7. What are the main water, sanitation and hygiene issues of the community?</b> <i>Explore issues effecting health and hygiene of community, availability of clean water, latrines sanitation etc</i>
<b>8. Any other comment / feedback?</b>

## GUIDELINES FOR FOCUS GROUP DISCUSSION

*(Note: Section I, II and III will be same for all 3 groups of FGDs)*

### SECTION I: INTRODUCTION AND INFORMED CONSENT

AsalaamAlikum, I am \_\_\_\_\_, representing **APEX Consulting**- a consultancy firm registered in Pakistan. Apex has been commissioned by UNICEF with the consent/in collaboration of department of health, Sindh to undertake a research study to determine Knowledge, Attitude, and Practice of Infant and Young Child Feeding among the population of districts Khairpur, Ghotki and Nausheroferoz.

We are conducting a focus group discussion. We thank you for your time today. We shall engage in discussion to solicit your views in relation to Infant and Young Child Feeding.

During the FGD, please help yourself to tea and water (if available). If you need to get up to use the rest room, feel free. We expect the focus group to take 1 to 1-½ hour. With your consent, we shall record the proceedings and use this discussion and/ or interpretation for our report. You and your individual opinions won't be identified in any way.

Name of the Village/Settlement: \_\_\_\_\_ Date: \_\_\_\_\_

Location of FGD: \_\_\_\_\_ District: \_\_\_\_\_

Moderator: \_\_\_\_\_

Facilitator: \_\_\_\_\_

### SECTION II: PARTICIPANTS LIST

Name	Category	Age

Name	Category	Age

### SECTION III: GUIDELINES FOR PARTICIPANTS

Before start of discussion, we would like to let you know about some recommended guidelines or "ground rules" that help establish the group norms so that the group proceeds smoothly and respectfully for all participants:

- Only one person talks at a time.
- Be sure about the Confidentiality. "What is shared in the room/group stays in the room/with us."
- It is important for us to hear everyone's ideas and opinions. There is no right or wrong answers to questions – just ideas, experiences and opinions, which are all valuable.
- It is important for us to hear all sides of an issue – both the positive and the negative.

*Please note that section IV is specific to each group, as specified.*

**SECTION IV: QUESTIONS TO FOCUS DURING DISCUSSION [For Mothers with a child < 2 years of age]**

*Please note that while in the field, the facilitator should exercise cultural sensitivity when asking the following questions/conducting the discussion.*

<b>Sub Section A: General</b>
<ol style="list-style-type: none"> <li>1. <b>What are the key health and sanitation issues affecting your community?</b> <i>Explore how these issues affect them, why they occur; relate with socio-economic aspects, any health hazards or epidemic in the last 12 months in the community.</i></li> <li>2. <b>Describe a typical meal pattern for a family in your community?</b> <i>Explore food taken for breakfast, lunch, dinner, and in-between meals; food intake during pregnancy and breastfeeding.</i></li> <li>3. <b>Who are the key persons and institutions who influence your infant and child feeding practice?</b> <i>Probe for influence of husband, father-in-law, mother-in-law, health workers, healthcare providers, religious leader, LHWs, etc). How they influence?</i></li> <li>4. <b>Where do you commonly find information about child feeding?</b> <i>Explore source of information and preference of source, adequacy of information, problems (if any) in getting information, information requirement.</i></li> </ol>
<b>Sub Section B: IYCF and WASH</b>
<ol style="list-style-type: none"> <li>5. <b>What do you understand by the following terms?</b> <i>(please mention the terms and record responses, then explore with probing questions for each as given below):</i> <ol style="list-style-type: none"> <li>a. <b>Early Initiation of Breastfeeding:</b>  <i>What does it mean? When should breastfeeding be initiated? Why? When did you initiated breastfeeding? Find out reasons for not initiating breastfeeding in the first hour of life. Find out reasons for not initiating breastfeeding in the first 2-3 days of life and what do they feed children during this period. In your opinion should a child be given colostrum? Did you feed your child colostrum? Why? Explore if there are any traditional beliefs regarding feeding the newborn the first milk or colostrum? What are these? Those who do not give colostrum, what are the reasons?</i></li> <li>b. <b>Exclusive Breastfeeding for 6 months:</b>  <i>What according to you is exclusive breastfeeding? How often a child should be breastfeed during day and night? Why? How long should a child be breastfeed exclusively? Why? Did you breastfeed your child for 6 months exclusively? Why? Is there anything else a child should be given up to age of 6 months? (Ask for tea, water etc) Why? Did you give anything to your child upto the age of 6 months? Why? Did your children have diarrhea and respiratory infections in their first 6 months? Why do you think they did?</i></li> <li>c. <b>Continued breastfeeding</b>  <i>What do you know about continued breastfeeding? How long should a child be breastfed? Why? Explore practice regarding stopping breastfeed (due to illness of mother, pregnancy or any other traditional beliefs and fears, pressure)            Did you face any problems in breastfeeding? What were they? How did you cope with them?</i></li> <li>d. <b>Bottle Feeding</b>  <i>Did you bottle feed your child between 0-23 months? Why? What did you feed? Explore practice around bottle feeding of breastmilk. Is formula milk important besides breastmilk? How? Why? Source of Information.</i></li> </ol> </li> </ol>

*Did you give formula milk to your child? Why? Explore reasons, frequency of feed for non-breastfed children. What do you do to the milk (cow, goat or sheep milk) before giving to children? Probe if they boil or not? Do they feed with cup or bottle?)*

**e. Age appropriate complementary feed**

*When should complementary feed be initiated? Why? Is it important to continue breastfeeding along with complementary feed? How? How many times in 24 hours should a child be fed with complementary food? Can you share how you feed your children in the age groups of 6-9 months? Explore frequency of feed, type and quantity of food. What are the major problems that prevent you from starting complementary/additional food for your baby of 6 months of age?*

**f. Solid, Semi-solid or soft food**

*How would you define between solid, semi-solid or soft food? (Write food items mentioned)*

**g. Dietary Diversity and Meal Frequency**

*What should a child between age group of 6-8 months be given in addition to breast milk? What should a child between age group of 9-11 months be given in addition to breast milk? What should a child between age group of 12-24 months be given in addition to breast milk? Probe frequency of feed; Probe differences in dietary diversity and meal frequency for breastfed children and non-breast fed children. What did you feed your child in last 24 hours? Explore for iron fortified and vitamin A rich foods. Are any food prohibited to feed to children? If yes, what? And Why? Explore responses and classify in food groups: 1) Grain, roots tubers; 2) Legumes and nuts; 3) Dairy product like milk, yoghurt or cheese; 4) Flesh food; 5) Eggs; 6) Vitamin A rich fruits and vegetable; 7) Other fruits and vegetables.*

**h. Water Sanitation and Hygiene**

*What are the main sources of water for domestic use? (explore source of water e.g. protected spring, well, piped water, river, surface water, unprotected well and spring etc) How do you find the quality of water? Is drinking water treated before use? What is the common water treatment method you use? (boil, filter or treat with chemicals) How do you keep your water source safe and maintained? (cleaning, boiling or using chemicals) Do you face shortage of water? Why? How do you cope with it? Do you wash hands? At what time (explore before preparing food, eating, feeding children, after using toilets, after cleaning child's bottom) Do you think it is important? Why? Do you encourage children to wash their hands before and after eating? What materials do most people use when washing hands? What do you believe as the benefits of washing hands with soap during key times? Do you have latrines? How people dispose their household waste? (especially children's faeces) Do you know the importance of latrines and proper disposal of household wastes?*

**SECTION IV: QUESTIONS TO FOCUS DURING DISCUSSION [For Mothers-in-Laws Group]**

*Please note that while in the field, the facilitator should exercise cultural sensitivity when asking the following questions/conducting the discussion.*

<p><b>1. What are the key health and sanitation issues affecting your community?</b> <i>Explore how these issues affect them, why they occur; relate with socio-economic aspects, any health hazards or epidemic</i></p>
<p><b>2. What is the role and responsibility of mothers-in-laws in the home?</b> <i>Explore role in household matters related to food choices, health seeking behaviour, child feeding and WASH etc, health and hygiene of household, household wastes, drinking water and source, latrines, knowledge about iron and vitamin rich food during special stages of child growth and for pregnant and lactating mothers, responsibility in rearing children – encouraging children to wash hands at critical times, taking care of hygiene and sanitation, ensuring provision of clean drinking water etc</i></p>
<p><b>3. Describe an ideal meal pattern for a pregnant and lactating women and young children?</b> <i>Write food names and focus on iron and vitamin rich foods</i></p>
<p><b>4. Where do you commonly find information about health and sanitation?</b> <i>Explore source of information and preference of source, information requirement.</i></p>
<p><b>5. What do you know about infant and child feeding practices?</b></p> <ul style="list-style-type: none"> <li>• <i>Explore when breastfeeding should be initiated and why, should a child be given colostrum? Why? If no then explore if there are any traditional beliefs regarding feeding the newborn the first milk or colostrum?</i></li> <li>• <i>How long should a child be breastfeed exclusively? Why? Is there anything else a child should be given up to age of 6 months? (Ask for tea, water etc) Why?</i></li> <li>• <i>How long should a child be breastfed? Why? Explore traditional beliefs regarding stopping breastfeed (due to illness of mother, pregnancy or any other traditional beliefs and fears, pressure), what do you think are the barriers for women to breastfeed their children exclusively/breast milk only for 6 months?</i></li> <li>• <i>Is formula milk important besides breastmilk? How?</i></li> <li>• <i>When should complementary feed be initiated? Why?</i></li> <li>• <i>How would you define solid, semi-solid or soft food? (Write food items mentioned)</i></li> <li>• <i>What should a child between age group of 6-24 months be given in addition to breast milk? Explore for iron fortified and vitamin A rich foods. Are any food prohibited to feed to children? If yes, what? And Why?</i></li> </ul> <p><i>Explore responses and classify in food groups: 1) Grain, roots tubers; 2) Legumes and nuts; 3) Dairy product like milk, yoghurt or cheese; 4) Flesh food; 5) Eggs; 6) Vitamin A rich fruits and vegetable; 7) Other fruits and vegetables.</i></p>
<p><b>6. What do you know about water sanitation and hygiene practice?</b></p> <ul style="list-style-type: none"> <li>• <i>Should drinking water be treated before use? How can it be treated? (boil, filter or treat with chemicals)</i></li> <li>• <i>Should hands be washed with soap at critical time? At what time (explore before preparing food, eating, feeding children, after using toilets, after cleaning child's bottom) Do you think it is important? Why?</i></li> <li>• <i>Do you know the importance of latrines and proper disposal of household wastes?</i></li> </ul>

## SECTION IV: QUESTIONS TO FOCUS DURING DISCUSSION

[For Fathers with a child < 2 years of age]

*Please note that while in the field, the facilitator should exercise cultural sensitivity when asking the following questions/conducting the discussion.*

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| <p><b>1. What are the key health and sanitation issues affecting your community? How do they affect you? Why they occur? How do you cope with it?</b></p>  |
| <p><b>2. What is the role and responsibility of fathers in the home? Explore role in household matters related to food choices, and provision of food as per household need, health seeking behaviour, child feeding and WASH etc, health and hygiene of household, household wastes, drinking water and source, latrines, knowledge about iron and vitamin rich food during special stages of child growth and for pregnant and lactating mothers, responsibility in rearing children – encouraging children to wash hands at critical times, taking care of hygiene and sanitation, ensuring provision of clean drinking water etc</b></p>   |
| <p><b>3. Does anyone or anything influence your decision? Explore influence of mother, father, wife, other family members, health workers, healthcare providers, religious leader, LHVs, community committee, media. How they influence and why?</b></p>   |
| <p><b>4. Describe a typical meal pattern for your family? Explore food taken for breakfast, lunch, dinner, and in-between meals; food intake during pregnancy and breastfeeding etc. Ask for the last meal they had and the food provided to wife during pregnancy and lactation.</b></p>  |
| <p><b>5. Have your women been advised on infant and child feeding practices? What was advised? How? Was the information useful? How? Explore source of information and preference of source, problems (if any) in getting information, information requirement, information gaps. (Probe for as many sources as possible?)</b></p>   |
| <p><b>6. What do you know about infant and child feeding practices?</b></p> <ul style="list-style-type: none"><li>▪ Explore when breastfeeding should be initiated and why</li><li>▪ How long should a child be breastfed exclusively? Why?</li><li>▪ What do you think are the barriers for women to breastfeed their children exclusively/breast milk only for 6 months?)</li><li>▪ When do you think women cease to breastfeed the baby? Why? (Explore reasons - due to illness of mother, pregnancy or any other traditional beliefs and fears, family pressure, work load etc,</li><li>▪ Does your wife give formula milk to your child? Why?</li><li>▪ When should complementary feed be initiated? Why?</li><li>▪ How would you define solid, semi-solid or soft food? (Write food items mentioned)</li><li>▪ Are any food prohibited to feed to children? If yes, what? And Why?</li></ul> <p><i>Explore responses and classify in food groups: 1) Grain, roots tubers; 2) Legumes and nuts; 3) Dairy product like milk, yoghurt or cheese; 4) Flesh food; 5) Eggs; 6) Vitamin A rich fruits and vegetable; 7) Other fruits and vegetables.</i></p> <ul style="list-style-type: none"><li>▪ Explore what is your contribution to complementary food (probe: initiation, selection of food, provision of the appropriate food types)?</li><li>▪ Would you afford to provide the required food types for complementary feeding (Probe: meat or fish, eggs, grain and tubers, fruits and vegetable, etc)</li><li>▪ Have health professionals or extension workers informed you at what age you should start complementary food for the baby?</li><li>▪ Can you describe any community beliefs that affect infant feeding practices?</li></ul> |
| <p><b>7. What do you know about water sanitation and hygiene practice?</b></p> <ul style="list-style-type: none"><li>▪ Should drinking water be treated before use? How can it be treated? (boil, filter or treat with chemicals)</li><li>▪ Should hands be washed with soap at critical time? At what time (explore before preparing food, eating, feeding children, after using toilets, after cleaning child's bottom) Do you think it is important? Why?</li><li>▪ Do you know the importance of latrines and proper disposal of household wastes?</li></ul>   |



## **ANNEXES III – Attitude Tables**

Initiation of Breastfeeding								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Within One Hour	216	72.0	252	84.0	230	76.7	698	77.6
One to Five Hours	44	14.7	40	13.3	27	9.0	111	12.3
Six to Ten Hours	5	1.7	1	.3	4	1.3	10	1.1
Eleven to Fifteen Hours	4	1.3	0	0.0	4	1.3	8	.9
Sixteen to Twenty Four Hour	5	1.7	0	0.0	0	0.0	5	.6
Twenty Five to Forty Eight Hours	21	7.0	2	.7	27	9.0	50	5.6
Forty Nine to Seventy Two Hours	0	0.0	1	.3	7	2.3	8	.9
After Three Days	4	1.3	4	1.3	1	.3	9	1.0
Dont Know	1	.3	0	0.0	0	0.0	1	.1
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Colostrum should be given to newborn								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	219	73.0	222	74.0	200	66.7	641	71.2
No	80	26.7	68	22.7	98	32.7	246	27.3
Don't Know	1	.3	10	3.3	2	.7	13	1.4
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

If Yes – Reasons								
	Ghotki		Khairpur		Noshehroferoz		Total	
	#	%	#	%	#	%	#	%
It is a source of strength for the newborn	123	56.2	203	91.4	165	82.5	491	76.6
Safest intake for the newborn	47	21.5	149	67.1	86	43.0	282	44.0
Boost newborn's immune system	14	6.4	58	26.1	19	9.5	91	14.2
Easily digested	98	44.7	105	47.3	10	5.0	213	33.2
Nutritious	112	51.1	108	48.6	8	4.0	228	35.6
Beneficial for mother's health	52	23.7	100	45.0	2	1.0	154	24.0
Others	15	6.8	1	.5	1	.5	17	2.7
<b>Total</b>	<b>219</b>	<b>100</b>	<b>222</b>	<b>100</b>	<b>200</b>	<b>100</b>	<b>641</b>	<b>100</b>

If No – Reasons								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
It is not good hygienically	63	78.8	52	76.5	87	88.8	202	82.1
This milk is not meant as feed	24	30.0	29	42.6	27	27.6	80	32.5
This is not easily digested	18	22.5	22	32.4	12	12.2	52	21.1
The risk of children becoming sick	8	10.0	11	16.2	4	4.1	23	9.3
Others	2	2.5	0	0.0	1	1.0	3	1.2
<b>Total</b>	<b>80</b>	<b>100.0</b>	<b>68</b>	<b>100.0</b>	<b>98</b>	<b>100.0</b>	<b>246</b>	<b>100.0</b>

First intake for the newborn								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Mother's Milk/Colostrum	223	74.3	250	83.3	189	63.0	662	73.6
Guthi	4	1.3	5	1.7	25	8.3	34	3.8
Honey	46	15.3	39	13.0	35	11.7	120	13.3
Water	1	.3	1	.3	1	.3	3	.3
Saliva of some elder	0	0.0	0	0.0	0	0.0	0	0.0
Saunf Water	0	0.0	0	0.0	0	0.0	0	0.0
Salt Water	1	.3	0	0.0	0	0.0	1	.1
Brown Sugar Water	3	1.0	0	0.0	0	0.0	3	.3
Ark-e-Gulab	0	0.0	0	0.0	0	0.0	0	0.0
Ad e zamzam	0	0.0	1	.3	0	0.0	1	.1
Fresh Animal Milk	14	4.7	1	.3	44	14.7	59	6.6
Tea/Kehwa	0	0.0	0	0.0	4	1.3	4	.4
Cerelac	0	0.0	0	0.0	0	0.0	0	0.0
Other (specify)	8	2.7	3	1.0	2	.7	13	1.4
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Reasons – if other than the mother's milk								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Local/family customs	49	63.6	43	86.0	84	75.7	176	73.9
Religious Reasons	20	26.0	1	2.0	0	0.0	21	8.8
This milk is piousness	11	14.3	1	2.0	4	3.6	16	6.7
It is not good hygienically	0	0.0	4	8.0	2	1.8	6	2.5
This milk is not meant as feed	3	3.9	3	6.0	1	.9	7	2.9
This is not easily digested	6	7.8	8	16.0	5	4.5	19	8.0
The risk of children becoming sick	7	9.1	6	12.0	4	3.6	17	7.1
Advise by mother in law	14	18.2	6	12.0	15	13.5	35	14.7
Others	3	3.9	0	0.0	10	9.0	13	5.5
<b>Total</b>	<b>77</b>	<b>100.0</b>	<b>50</b>	<b>100.0</b>	<b>111</b>	<b>100.0</b>	<b>238</b>	<b>100.0</b>

Introduce of soft food for an infant								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
First 3 Months	13	4.3	16	5.3	12	4.0	41	4.6
4 to 5 Months	32	10.7	32	10.7	55	18.3	119	13.2
At 6th Month	90	30.0	27	9.0	76	25.3	193	21.4
7 to 12 Months	155	51.7	218	72.7	149	49.7	522	58.0
Above 12 Months	6	2.0	1	.3	8	2.7	15	1.7
Don't Know	4	1.3	6	2.0	0	0.0	10	1.1
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Exclusive breastfeeding								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
First 3 Months	9	3.0%	9	3.0%	28	9.3%	46	5.1%
4 to 5 Months	63	21.0%	92	30.7%	62	20.7%	217	24.1%
At 6th Month	139	46.3%	163	54.3%	149	49.7%	451	50.1%
Above 6 Months	61	20.3%	22	7.3%	58	19.3%	141	15.7%
Don't Know	28	9.3%	14	4.7%	3	1.0%	45	5.0%
<b>Total</b>	<b>300</b>	<b>100.0%</b>	<b>300</b>	<b>100.0%</b>	<b>300</b>	<b>100.0%</b>	<b>900</b>	<b>100.0%</b>

Complementary Breastfeeding								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
0 to 6 Months	0	0.0	0	0.0	0	0.0	0	0.0
7 to 12 Months	4	1.3	6	2.0	36	12.0	46	5.1
13 to 23 Months	8	2.7	22	7.3	15	5.0	45	5.0
Till 24 Months	263	87.7	255	85.0	221	73.7	739	82.1
Above 24 Months	24	8.0	11	3.7	20	6.7	55	6.1
Don't Know	1	.3	6	2.0	8	2.7	15	1.7
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Predominant Breast Feeding								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Cerelac	203	67.7	254	84.7	198	66.0	655	72.8
Porridge	161	53.7	137	45.7	140	46.7	438	48.7
Egg	94	31.3	115	38.3	57	19.0	266	29.6
Bread	91	30.3	55	18.3	50	16.7	196	21.8
Rice	250	83.3	209	69.7	115	38.3	574	63.8
Vegetables (which one, name)	77	25.7	155	51.7	61	20.3	293	32.6
Fruits (which one, name)	67	22.3	124	41.3	24	8.0	215	23.9
Meat (which one, name)	10	3.3	86	28.7	33	11.0	129	14.3
Fish	11	3.7	98	32.7	30	10.0	139	15.4
Yogurt	25	8.3	16	5.3	15	5.0	56	6.2
Formula milk	12	4.0	29	9.7	15	5.0	56	6.2
Powdered milk	24	8.0	40	13.3	11	3.7	75	8.3
Butter	12	4.0	21	7.0	15	5.0	48	5.3
Cheese	1	.3	2	.7	1	.3	4	.4
Other	11	3.7	4	1.3	9	3.0	24	2.7
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Meal Frequency								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Whenever the baby is hungry	168	56.0	156	52.0	156	52.0	480	53.3
One to two times	94	31.3	117	39.0	111	37.0	322	35.8
Three to four times	33	11.0	23	7.7	23	7.7	79	8.8
Five to more times	2	.7	4	1.3	9	3.0	15	1.7
Don't Know	3	1.0	0	0.0	1	.3	4	.4
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

Infant formula milk replacement of mother's milk								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Yes	47	15.7	15	5.0	46	15.3	108	12.0
No	230	76.7	267	89.0	246	82.0	743	82.6
Don't Know	23	7.7	18	6.0	8	2.7	49	5.4
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>	<b>900</b>	<b>100.0</b>

If Yes - Reasons								
	Ghotki		Khairpur		Nausheroferoz		Total	
	#	%	#	%	#	%	#	%
Additional nutrients are added	38	80.9	12	80.0	38	82.6	88	81.5
More easily digestible	12	25.5	6	40.0	6	13.0	24	22.2
Easier to administer	5	10.6	1	6.7	1	2.2	7	6.5
Advised by doctor	10	21.3	4	26.7	3	6.5	17	15.7
Mother is busy/working	1	2.1	0	0.0	1	2.2	2	1.9
Other	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>47</b>	<b>100.0</b>	<b>15</b>	<b>100.0</b>	<b>46</b>	<b>100.0</b>	<b>108</b>	<b>100.0</b>



