

Displaced Rohingya children at high risk for mental health problems: findings from refugee camps within Bangladesh

Naila Z. Khan 1,
Asma Begum Shilpi 1,
Razia Sultana 1,
Shaoli Sarker 2,
Sultana Razia 2,
Bipasha Roy 2,
Abu Arif 2,
Misbah Uddin Ahmed 3
Subas Chandra Saha 4
Helen McConachie 5

1. Clinical Neurosciences Unit, Bangladesh Protibondhi Foundation, Dhaka Bangladesh.
2. Department of Paediatric Neuroscience, Dhaka Shishu (Children's) Hospital, Bangladesh.
3. Upazila Health Complex, Ukhia, Cox's Bazar, Bangladesh.
4. Department of Paediatrics, Cox's Bazar Medical College Hospital, Bangladesh.
5. Institute of Health and Society, Newcastle University, UK

Corresponding author: Professor Helen McConachie, helen.mcconachie@ncl.ac.uk

Institute of Health and Society, Newcastle University, Sir James Spence Institute level 3, Royal Victoria Infirmary, Newcastle upon Tyne NE12 NT, 0191 282 1396

Accepted for publication in *Child: care, health and development* (7th October 2018)

Contributions of authors

The study was designed by all the authors. The data collection was by ABS, SR, RS, SS, BR and AA, facilitated by NZK, MUA and SCS. Data entry, analysis and interpretation was by NZK, ABS, BR, RS and HM. All authors read and commented on drafts and approved the final paper.

Declaration of interests

The authors declare no conflicts of interest.

Acknowledgements

This work was supported by the Child Care Health and Development Trust, UK. The Trust had no role in the design, collection, analysis or interpretation of data, nor in the decision to submit the paper for publication.

Key messages

It is known that children escaping political violence are likely to be vulnerable. This study provides early evidence concerning recently displaced children in refugee camps within Bangladesh.

Large proportions of children had emotional symptoms and peer problems. The most vulnerable were those without parents.

As well as urgent needs for shelter, food and preventive healthcare, children require immediate psychosocial support in emergency situations.

Abstract

Background

The 2017 political violence against the Rohingya people in the state of Rakhine resulted in a large influx of displaced populations into Bangladesh. Given harsh conditions and experiences in Myanmar, and the harrowing journey to the border, raised levels of child neurodevelopmental disorders (NDDs) and mental health problems were expected.

Methods

A team of child development professionals, physicians, psychologists and developmental therapists, screened 622 children in clinics within the refugee camps, using the Developmental Screening Questionnaire (DSQ; 0-<2 years), and the Ten Questions Plus (TQP) for NDDs, and Strengths and Difficulties Questionnaire (SDQ; 2-16 years) for mental health problems. Any child positive on the DSQ or the TQP was assessed for NDDs.

Results

Only 4.8% children aged 0-<2 years and 7.3% children aged >2-16 years screened positive for NDDs, comparable to a local Bangladesh population. However, 52% of children were in the abnormal range for emotional symptoms on the SDQ, and 25% abnormal for peer problems. Significant risk factors were being parent-less and having lost one or more family members in the recent crisis.

Conclusions

This screening study provides objective evidence of the urgent need for psychosocial support of Rohingya children within camps, with special attention to those without parents, including monitoring of their well-being and counselling of families and other care-providers.

INTRODUCTION

The 2017 political violence and genocide against the Rohingya people in the state of Rakhine by the Myanmar army resulted in an influx of around seven hundred thousand into Bangladesh (International Organization for Migration, 2018). These refugees added to an older wave of refugees given shelter (Mahmood, Wroe, Fuller, & Leaning, 2017). Over half of the refugees are children (56%, United Nations High Commissioner for Refugees, July 2018).

Worldwide there are estimated to be 22.5 million refugees (United Nations High Commissioner for Refugees, 2016). In the short-term, the prevention of mortality from nutritional deprivation and communicable diseases remains at the forefront of emergency health services in any humanitarian crisis (Chan, Chiu, & Chan, 2018). Furthermore, experience has provided information on long-term morbidities related to the physical and emotional well-being of vulnerable refugee populations, with special emphasis on the long-term effects in children (Cummings, Merrilees, Taylor, & Mondri, 2017; Masten & Narayan, 2012). There has been increasing research aimed at understanding why some children are at greater risk and others are more resilient in the face of hardship (Belsky, 2008; Masten & Narayan, 2012); children who have been exposed to severe or frequent violence are more likely to develop mental health problems (Shaw, 2003). Such problems may be evident even in pre-school age children, as hyperactivity and peer problems (Massad et al, 2009). Protective factors are likely to include family and community culture, and participation in school (Cummings, Merrilees, Taylor, & Mondri, 2017). What is less known are the types of vulnerabilities of recently displaced children.

Bangladesh authorities have experience in responding to humanitarian emergencies; the country is geographically vulnerable to climate disasters, such as floods and tsunamis (Shimi, Parvin, Biswas, & Shaw, 2010), which result in large populations being internally displaced. Children's increased risk of

disabilities and mental health problems have been reported in these situations. A recent study after a tsunami in a coastal population found a three-fold greater prevalence of neurodevelopmental impairments in infants conceived and born as climate refugees compared to non-climate refugee infants (Khan, Muslima, Shilpi, Majumder, & Khan, 2016). One study focused on the disastrous flood of 1988 (over two fifths of the country under water) showed that the children assessed in a pre-flood survey showed no greater frequency of neurodevelopmental disabilities (NDDs) after the floods, but there was evidence of heightened aggressive behaviour and enuresis (Durkin, Khan, Davidson, Zaman, & Stein, 1993).

It was expected that recently displaced Rohingya children would be especially vulnerable to mental health problems and NDDs, given the harsh and repressive conditions that Rohingya communities had experienced while in Myanmar, evidence of poor nutrition and stunting in Rohingya children (Mahmood, Wroe, Fuller, & Leaning, 2017), the hazardous escape to Bangladesh, and the ongoing difficult conditions within camps (United Nations High Commissioner for Refugees, 2018). The purpose of this study was to screen children in camps immediately after their establishment within Bangladesh to estimate the extent of mental health and developmental problems, for the purposes of planning services for children and families.

METHODS

Design

A cross-sectional screening study of children recruited through announcements and key informants in Rohingya refugee emergency camps within Bangladesh.

Multidisciplinary Child Development Team and Local Health Authority

The Child Development Unit (CDU) of the Department of Pediatric Neuroscience, Dhaka Shishu(Children's) Hospital worked in conjunction with the local government health authorities, i.e., the Civil Surgeon, and the Health and Family Planning Officer in UkhiaUpazilla (sub-district), near Cox's Bazar, Bangladesh. The CDU team of child health physician, child psychologist and two developmental therapists visited several Rohingya refugee camps during the month of January, 2018. They set up services in the government health clinic each morning till late afternoon.

The Study Population

Each day the Rohingya *majhis* (block leaders) were asked to announce by loud-speaker that the child development team was present, and could see any child from 0-16 years. Mothers or the primary care-providers were encouraged to bring these children to the clinic for a preliminary checkup. The *majhis* were also asked, as key informants, that if they knew of children with any kind of developmental concerns related to their physical, sensory, behavioral, cognitive or emotional development, or any child without a parent, these children should be brought in to the clinic. In addition, any newborn child should be brought, or the team could be taken to the family. Five camps were visited by the team, each for the duration of one week, i.e., six working days.

Socio demographic History

A socio-demographic history was taken from the mother or primary care-provider which included details on the head of the household, the mother and the child; the care-provider's education level; and the family's living conditions in Myanmar and at present. If the child was without a parent, then a record was taken of the primary care-provider and their relationship to the child.

Neurodevelopmental Disability Screening Tools

For children aged 0-<2 years the Developmental Screening Questionnaire (DSQ: Khan et al, 2013) was applied. This tool has been developed and validated in Bangladesh and screens every child in the following domains: primitive reflexes (for 0-1 month only), gross motor, fine motor, vision, hearing,

speech, cognition, behavior and seizures. For every month of the child's age, a different set of questions is asked which reflect developmental norms. A 'yes'/'no' format for each item is recorded in the pre-coded form, according to the care-provider's response.

For children aged 2-16 years, the Ten Questions Plus (TQP) was applied, asking (yes/no) about gross motor and fine motor skills, vision, hearing, expressive language, cognition, behaviour and seizures. This screening tool was developed through validation in several countries (Durkin et al, 1994) including Bangladesh (Zaman et al, 1990), with the eleventh question validated in regional populations (Wu et al, 2012) and in Bangladesh (Khan & Makhduma, 2013; Khan et al 2018). A further version to include 10-16 year olds is also in an advanced stage of development and validation (Hasan, 2014).

Screening was done by the two developmental therapists in the CDU team by interviewing the mother or care-provider, with the child present. Both child health physicians understood Rohingya dialect and could explain the meaning of terms within the screening tools where necessary. Screen positivity is considered if there is a problem in any of the set of questions.

General Development Assessment (GDA)

All screen positive children (on DSQ or TQP) immediately underwent a longer assessment of their neurodevelopmental status, i.e., a GDA by the child health physician and psychologist. This involved a child and family history, major concerns regarding development, anthropometric measurement, and a general physical examination followed by a neurodevelopmental examination. Weight for height (wasting: mild, moderate, severe) and height for age (stunting: mild, moderate, severe) were recorded using World Health Organisation growth charts. A provisional clinical diagnosis was recorded. Those who needed further investigations or medicine or rehabilitation were referred to the Ukhia Upazilla Health Complex and through them to the Child Development Center in Cox's Bazar Medical College Hospital.

Screening for emotional and behavioural problems

After starting the above screening and assessment procedures, even within NDD screen negative children, underlying stress was noticed by the CDU team members. A week into the programme, the Strengths and Difficulties Questionnaire (SDQ) was added to the screening for children aged 2-16 years. This tool has been validated in Bangladesh (Goodman, Renfrew, & Mullick, 2000; Mullick & Goodman, 2005). It comprises 25 questions, recorded on a three point scale (not true, somewhat true, certainly true). It is scored in five domains: emotional symptoms, conduct problems, hyperactivity, peer problems, prosocial behaviour (the total problem score compiled from the first 4 domains, with cut-off points for the total and each domain to determine level of problems – normal, borderline, abnormal, with the abnormal percentage expected to be 10% in the general population) (Mullick & Goodman, 2005). The tool was applied by the psychologist by interviewing the care-provider, aided by a local translator. All care-providers of those screened positive were provided basic counseling, and discussion was held with the child where judged appropriate on issues related to their well-being and protection.

Ethical Considerations

The study proposal was passed by the Ethical Review Committee of the Bangladesh Institute of Child Health, Dhaka Shishu Hospital. Permission to work in the Rohingya refugee camps was given by the government health authorities.

Analysis

Descriptive statistics were used (chi-square) to examine associations between demographic characteristics and observed child problems.

RESULTS

In total, 622 children were screened; 126 were aged up to two years, and 496 between 2 and 16 years. In addition, care-providers answered the SDQ for 342 children aged between 2 and 16 years, mean 7.4 years (sd 3.6).

[insert Table 1 about here]

Table 1 provides socio demographic details about the head of the household, the mother and the children. The level of housing in Myanmar had generally been poor with 58% of children living in a house made only of mud. Moreover, the adults had had limited education, with 83% of heads of household never attending school. Nevertheless, high proportions reported having had solar panels and mobile phones.

[Insert Table 2 about here]

Results of screening for NDDs is provided in Table 2. The number and proportion of screen positive children were 6 (4.8%) in children up to 2 years, and 36 (7.3%) in children aged 2 to 16 years. The table also includes the provisional clinical diagnosis of the 42 screen positive children. Most had multiple functional limitations in the following developmental domains: cognition (in 33 children, 78.5%); gross motor (in 29 children, 69.0%); speech (in 28 children, 66.7%); fine motor (in 19 children, 45.2%); behavior (in 10 children, 23.8%); vision (in 5 children, 11.9%); hearing (in 4 children, 9.5%). In addition, 33 (78.5%) had stunting, and in 23 (54.8%) this was severe. Given the small numbers, no further analysis of association with demographic characteristics was undertaken.

[Insert Table 3 about here]

Mental health problems were more evident. Over half (52%) of the children aged 2 to 16 years were reported to be in the abnormal range for emotional symptoms on the SDQ, and 25% abnormal for peer

problems (see Table 3). Of the individual emotional symptoms items, the most endorsed as 'certainly true' were 'many worries' for 30.7% and 'often unhappy, downhearted' for 23.8% of the children screened. For peer problems, the most endorsed items were '(not) liked by other children' and '(not having) one good friend' (both 15.6%). In contrast to the 'internalising' domain, hyperactivity and conduct problems were reported for very few children. The pattern for prosocial behaviours was that items were reported as 'somewhat true' (rather than 'certainly true') for around two-thirds of children, including 'Kind to younger children' (73%), 'Helpful if someone is hurt' (59%) and 'Shares readily with other children' (68%).

We examined possible associations with these identified mental health problems: child age (under 10 versus 10 and over), gender and whether the child was parent-less; family factors of type of housing in Myanmar, whether the head of household had received education, and whether any family members had died during recent events. Children's mental health problems were significantly associated with being parent-less. 100% of parent-less children were reported in the abnormal range for emotional symptoms versus 57.8% who were with parents (chi-square 19.34, df 2, $p < .001$). Being parent-less was also significantly associated with peer problems (chi-square 7.76, df 2, $p = .021$) and with total problems (chi-square 23.40, df 2, $p < .001$). Age and gender were not significantly associated with mental health problems, though the older group (10 to 16 years) were more likely to have problems than the younger group (2 to 9 years), i.e., 11.8% and 6.0% abnormal on total problems respectively. Previous types of housing and head of household education were not associated with child mental health problems, but where one or more family members had died children were more likely to have peer problems (42.1% abnormal versus 32.8% of children where no family member had died during the current situation; chi-square 6.66, df 2, $p = .036$).

DISCUSSION

Overall there was little evidence from screening of recently arrived Rohingya refugee children in Bangladesh camps of neurodevelopmental disabilities, and the children who screened positive and were assessed had mainly quite evident disabilities. A similar survey of the local Bangladeshi population of children in 2013 (n = 1021, PekuaUpazilla) found similar proportions: 6.2% screened positive in the age group 0-<2 years, and 5.3% of children aged 2-9 years (Khan & Makhduma, 2013). Thus, despite the Rohingya community leaders having been asked to bring children to the clinic where families had concerns about their development, the proportion with neurodevelopmental disabilities was not elevated as had been expected. The long-term effects of stunting nevertheless would be of concern, if the level observed in the screen positive children were to be found more generally.

There was strong evidence of the effects of children's experiences on their mental health, particularly as shown in the proportion with abnormal levels of emotional symptoms and peer problems such as isolation from other children. The peer problems may also have influenced the scoring of prosocial behaviours if children had little interaction with others. On the other hand, the living situation in the camps was likely to restrict opportunities for play, or for parents or care-providers to observe behaviours such as sharing and being helpful to others. Of particular concern was the finding that all parent-less children seen were reported as having abnormal levels of emotional symptoms even though they might be living with a member of the extended family (over 50% were with a grandmother). The study team did not seek evidence about whether children had directly witnessed violence (Shaw 2003), but that probability presumably was related to finding that peer problems were elevated in those children where one or more family members had died. Unlike the more settled situation reported by

Massadet al (2009) in young Palestinian children, hyperactivity was not evident in the Rohingya refugee children but peer problems were. Boys who were screened were not more affected than were girls.

The study team were struck by the resilience of the Rohingya mothers and care-providers, as they and the children attended the clinic well groomed despite their difficult living circumstances. The deprivation of the population while in Myanmar was evident from the low levels of formal education of adults and poor housing reported. Mental health of the parents and care-providers was not assessed, but studies of previous waves of Rohingya refugees (Riley, Varner, Ventevogel, Hasan, & Welton-Mitchell, 2017) suggest high levels of adult mental health problems including post-traumatic stress disorder and depression. The exacerbating factors include not only trauma exposure in Myanmar but also daily stresses associated with living in a refugee camp such as uncertainty about the future, problems with food and concerns regarding safety. These problems in care-providers are very likely also to affect children, especially those who are older and more aware of their surroundings.

Strengths and limitations

The study team was able to screen a large number of newly arrived displaced children in a short period. The screening tools have strong psychometric properties, and have been validated in Bangladeshi populations with similar culture and living situations to the Rohingya. The screening was conducted by experienced child development professionals, with the child present, hence the lack of false positives from screening. The study is not a prevalence study, given the emergency situation with continuing new arrivals into the camps; thus the true denominator is not known. The recruitment strategy of announcements by loudspeaker by the Rohingya community leaders, along with more focused seeking out of children with developmental problems, was feasible in the situation, but it cannot be known whether sufficient trust was established to make the screened sample representative. Nevertheless, the

mental health screening results do point towards the scale of the problems for the children in this emergency situation.

Implications

The findings of this study are not in themselves sufficient for developing appropriate interventions for children and families. Further studies, ideally longitudinal, would be required in order to track the nature and intensity of problems. The humanitarian efforts in Bangladesh in support of the refugees have focused on registering new arrivals, preventative health care, improving design of temporary housing and sanitation, organizing regular food supply to sectors, and creating child-friendly spaces. The need for psychosocial care of all children has also been recognized (Hossain & Purohit, 2018; World Vision, 2018). A meta-analysis of the effects of psychosocial support in emergency situations has shown beneficial effects of interventions for children with identified internalizing symptoms, such as school-based support and group meetings for parents (Tol et al, 2011). The evidence concerning likely levels of need for such interventions has been demonstrated by this screening study.

Conclusion

This study has shown that screening of children for NDDs and mental health problems in emergency situations can be feasible. The findings indicated that a high proportion of internationally displaced Rohingya children recently arrived in camps in southern Bangladesh were suffering emotional symptoms and peer problems. Both preventative and targeted psychosocial interventions to support children and families are urgently needed, with evaluation and monitoring of appropriateness and effectiveness.

REFERENCES

- Belsky, J. (2008). War, trauma, and children's development: observations from a modern evolutionary perspective. *International Journal of Behavioral Development*, **32**, 260–271.
- Chan, E.Y.Y., Chiu, C.P., & Chan, G.K.W. (2018). Medical and health risks associated with communicable diseases of Rohingya refugees in Bangladesh 2017. *International Journal of Infectious Diseases*, **68**, 39–43.
- Cummings, E.M., Merrilees, C.E., Taylor, L.K., & Mondy, C.F. (2017). Developmental and social-ecological perspectives on children, political violence, and armed conflict. *Development and Psychopathology*, **29**, 1–10.
- Durkin, M., Khan, N.Z., Davidson, L.L., Zaman, S.S., & Stein, Z.A. (1993). The effects of a natural disaster on child behavior: evidence for posttraumatic stress. *American Journal of Public Health*, **83**(11), 1549–1553.
- Durkin, M.S., Davidson, L.L., Desai, P., Hasan, Z.M., Khan, N.Z., Shrout, P.E., Thorburn, M.J., Wang, W., & Zaman, S.S. (1994). Validity of the ten questions screen for childhood disability: results from population-based studies in Bangladesh, Jamaica and Pakistan. *Epidemiology*, **5**, 283–289.
- Goodman, R., Renfrew, D., & Mullick, M. (2000). Predicting type of psychiatric disorder from Strengths and Difficulties Questionnaire (SDQ) scores in child mental health clinics in London and Dhaka. *European Child & Adolescent Psychiatry*, **9**, 129–134.
- Hasan, S.H. (2014) A study to validate the Ten-Question-Questionnaire+ for the detection of moderate to severe neurological disabilities in older Bangladeshi children. Thesis. FCPS (Paediatrics) Part II. Chittagong Medical College Hospital. Accepted January 2014.
- Hossain, M.M., & Purohit, N. (2018). Protecting Rohingya: lives, minds, and the future (Letter). *Lancet*, **391**(Feb), 533.
- International Organization for Migration. Rohingya Humanitarian Crisis Response – External Update, 4-10 May 2018. (<https://reliefweb.int/report/bangladesh/iom-bangladesh-rohingya-humanitarian-crisis-response-external-update-4-10-may-2018>, accessed 15 May 2018).
- Khan, N.Z., & Makhduma, N. (editors) (2013). Survey of Autism and Neurodevelopmental Disorders in Bangladesh. Directorate General of Health Services, Ministry of Health and Family Welfare, Government of Bangladesh. August, 2013.
- Khan, N.Z., Muslima, H., Shilpi, A.B., Begum, D., Akhtar, S., Parveen, M., Ferdous, S., McConachie, H., & Darmstadt, G.L. (2013). Validation of a home-based neurodevelopmental screening tool for under 2-year-old children in Bangladesh. *Child: Care, Health and Development*, **39** (5), 643–650.

- Khan, N.Z., Muslima, H., Shilpi, A.B., Majumder, S.K., & Khan, A.E. (2016). Neurodevelopmental outcomes in children born to climate refugee mothers in Bangladesh: experiences from Cyclone Aila. *Mymensingh Medical Journal*, **25**(4), 746.
- Khan, N. Z., Sultana, R., Ahmed, F., Shilpi, A.B., Sultana, N., & Darmstadt, G.L. (2018) Scaling up child development centres in Bangladesh. *Child: Care, Health and Development*, **44**, 19–30.
- Mahmood, S.S., Wroe, E., Fuller, A., & Leaning, J. (2017) The Rohingya people of Myanmar: health, human rights, and identity. *Lancet*, **389** (May), 1841–50.
- Massad, S., Nieto, F.J., Palta, M., Smith, M., Clark, R., & Thabet, A.-A. (2009). Mental health of children in Palestinian kindergartens: resilience and vulnerability. *Child and Adolescent Mental Health*, **14**(2), 89–96.
- Mullick, M.S.I., & Goodman, R. (2005). The prevalence of psychiatric disorders among 5-10 year olds in rural, urban and slum areas in Bangladesh: an exploratory study. *Social Psychiatry and Psychiatric Epidemiology*, **40**, 663–671.
- Riley, A., Varner, A., Ventevogel, P., Hasan, M.M.T., & Welton-Mitchell, C. (2017). Daily stressors, trauma exposure, and mental health among stateless Rohingya refugees in Bangladesh. *Transcultural Psychiatry*, **54**(3), 304–331.
- Shaw, J.A. (2003) Children exposed to war/terrorism. *Clinical Child and Family Psychology*, **6**, 237-246.
- Shimi, A.C., Parvin, G.A., Biswas, C., & Shaw, R. (2010). Impact and adaptation to flood: a focus on water supply, sanitation and health problems of rural community in Bangladesh. *Disaster Prevention and Management*, **19**(3), 298–313.
- Tol, W.A., Barbui, C., Galappatti, A., et al. (2011). Mental health and psychosocial support in humanitarian settings: linking practice and research. *Lancet*, **378**, 1581–1591.
- United Nations High Commissioner for Refugees (2018) (<https://data2.unhcr.org/en/documents/download/65038>, accessed 24 September 2018).
- United Nations High Commissioner for Refugees (2016) (<http://www.unhcr.org/globaltrends2016/> accessed 15 May 2018).
- World Vision. Psychological support for refugee children of Myanmar in Bangladesh (<https://reliefweb.int/report/bangladesh/psychological-support-refugee-children-myanmar-bangladesh>, accessed on 15 May 2018).
- Wu, L.A., Katz, J., & Mullany, L.C., et al. (2012). The association of preterm birth and small birthweight for gestational age on childhood disability screening using the Ten Questions Plus tool in rural Sarlahi district, southern Nepal. *Child: Care, Health and Development*, **38**(3),332–340.

Zaman, S.Z., Khan, N.Z., Islam, S., Banu, S., Dixit, S., ShROUT, P., & Durkin, M. (1990). Validity of the “Ten Questions” for screening serious childhood disability: results from urban Bangladesh. *International Journal of Epidemiology*, **19**, 613–620.

Table 1: Sociodemographic characteristics of the screened children (N=622)

Variable	Number	%	Mean	SD
ALL CHILDREN (N=622)				
<i>Number of children by camp name</i>				
Jamtoli	49	7.9		
Balukhali	23	3.7		
Kutupalong	96	15.4		
Hakimpara	92	14.8		
Thaingkhali	362	58.2		
TOTAL	622	100		
<i>Head of household's gender</i>				
Male	501	80.5		
Female	121	19.5		
TOTAL	622	100		
<i>Age of head of household in years</i>			37.74	11.32
<i>Head of household's level of education</i>				
Never went to school	517	83.1		
Primary school	58	9.3		
Class 8	41	6.6		
Completed high school	6	1.0		
TOTAL	622	100		
<i>Ownership of house in Myanmar</i>				
Own house	606	97.4		
Rented	4	0.6		
Others' houses	12	1.9		
TOTAL	622	100		
<i>Number of rooms inside the house</i>			3.08	1.23
<i>Ownership of land in Myanmar</i>				
1-5 decimals	362	58.2		
10 decimals	107	17.2		
20 decimals	15	2.4		
30 decimals	136	21.9		
N/A	2	0.3		
TOTAL	622	100		
<i>What was the house built of</i>				
All Mud	363	58.4		
Wall Bamboo, Tin Roof	194	31.2		
Wall Mud, Tin Roof	32	5.1		
Wall Tin, Tin Roof	19	3.1		
Wall Brick, Tin Roof	6	1.0		
All Brick	8	1.2		
TOTAL	622	100		

Variable	Number	%	Mean	SD
<i>Did the house in Myanmar have electricity</i>				
No	588	94.5		
<i>Did the house in Myanmar have Solar Panels</i>				
Yes	583	93.7		
<i>Did they own a mobile phone</i>				
Yes	478	76.8		
<i>Source of water in Myanmar</i>				
Tubewell	613	98.5		
<i>Did any family member die in the current situation? If yes, how many</i>				
0	378	60.8		
1	147	23.6		
2	62	10.0		
3	32	5.0		
4 or more	3	0.6		
TOTAL	622	100		
CAMP				
<i>Type of toilet being used</i>				
Bucket	521	83.8		
Pit	39	6.3		
Flush	6	1.0		
Open	4	0.6		
Others	52	8.3		
	622	100		
<i>No. of family members using one toilet</i>			7.13	3.64
CHILDREN AGED 0-<2 YEARS (N=126)				
<i>Age in Months</i>			10.31	6.42
<i>Gender</i>				
Male	78	61.9		
Female	48	38.1		
Total	126	100		
<i>Mother/care provider's age in years</i>			26.22	7.55
CHILDREN AGED 2-16 YEARS (Total=496)				
<i>Age in Years</i>			6.81	3.53
<i>Gender</i>				
Male	295	59.5		
Female	201	40.5		
Total	496	100		
<i>Mother/care provider's age in years</i>			31.87	8.74
TOTAL	622	100		

Variable	Number	%	Mean	SD
PARENT-LESS CHILDREN (N=37)				
<i>Who are they living with</i>				
Grandmother	20	54.1		
Aunt	6	16.2		
Grandfather	5	13.5		
Community member	4	10.8		
Uncle	2	5.4		
Total	37	100		
<i>Age of the children</i>				
Less than 2 years of age in months (N=3)			7.00	1.73
2-16 years of age in years (N=34)			7.72	3.24
<i>Gender</i>				
Male	15	40.5		
Female	22	59.5		
Total	37	100		

Table 2: Results of screening for disability, followed by assessment of the screened positive children for a clinical diagnosis.

Screening: Children aged 0-<2 years			Assessment	
Number of Children Screened	Positive	%	Clinical Diagnosis	Number of Children
126	6	4.8	Cerebral Palsy	2
			Motor Delay	2
			Cognitive Delay	1
			Hypothyroidism	1
Screening: Children aged 2-16 years			Assessment	
Number of Children Screened	Positive	%	Clinical Diagnosis	Number of Children
496	36	7.3	Cerebral Palsy	7
			Cognitive Delay	6
			Speech Delay	5
			Ricketts	5
			Syndromic	4
			Vision Impairment	3
			Motor Delay	2
			Other	4

Table 3: Mental health problems in 2-16 year old children assessed by parent or other primary care-provider recall on the Strengths and Difficulties Questionnaire.

Total number assessed = 342; mean age in years = 7.40 (sd 3.59); min age = 2; max age = 16

<i>Sub Scale</i>	No. of Children	%	No. of Children	%	No. of Children	%
	Normal		Borderline		Abnormal	
<i>Emotional Symptoms</i>	140	41	23	7	179	52
<i>Conduct Problems</i>	292	85	30	9	20	6
<i>Hyperactivity</i>	327	97	10	3	5	1
<i>Peer Problems</i>	191	56	65	19	86	25
<i>Prosocial Behaviour</i>	257	75	51	15	34	10
<i>Total Problems</i>	254	74	62	18	26	8