

Towards Designing Mental Health Solution for Female Rohingya Refugees

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Information

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Research motivations and goals

Because of the ethnic cleansing over Rohingya community in Rakhine state of Myanmar in 2017, around 6 million Rohingya people migrated to Bangladesh for safe shelter [1]. Along with this displacement, a scenario of mass abuse, murder, rape happened with the refugee people that eventually creates many invisible wounds along with visible ones. To better understand their needs, and designing an effective ICT solution for their mental support, we did a qualitative study on 10 female refugees currently living in the Refugee Camp, Ukhia, Cox's Bazar, Bangladesh. Our findings are mostly concentrated on designing the mental health solution for the traumatized women who had to encounter their beloved ones being oppressed. We have examined them through the lens of HCI research principle and stepped towards suggesting a technology intervention to improve their current mental state.

Context

Rohingya people are a Muslim minority group residing in the western state of Rakhaine, Myanmar [1], who has been suffering devastating suppression and abuse in Myanmar for last couple of years. Around 693,000 number of refugees fled to Bangladesh [2] and took shelter in various refugee camps from year 2016 till today. These people are considered "stateless entities," as the Myanmar government does not recognize them as an ethnic group. This community has faced abusive

behavior and witnessed torture and death. In these situations, often females become more tortured and victimized. Specially, the female refugees are still suffering a lot of trauma including the process of resettlement, grief, loss and anxiety, rape and physical torture, loss of family and social supports, unemployment, language barriers, isolation due to social barriers etc. which is putting the state of mental health of them at risk. The Government of Bangladesh, NGOs and other international organizations are considering physical wellbeing of this community whereas attention of the mental stability is still absent. Our initial investigative sessions with this community opened up their feelings which required attention for improving mental wellbeing.

Methodology

To have a nuanced understanding of the mental turbulence of the female Rohingya refugees, we had semi-structured interviews with 10 female participants of age range 18 to 50, from the medical camp with vulnerable mental states according to the doctors through purposive sampling. All the interviews were conducted in the medical camps with the help of the health volunteers working in the camps. Verbal consents were taken from the participants with a clear description of this study. No incentive was provided.

In the semi-structured interviews, they were asked about general health-related problems initially. Later, we tried to understand their mental state by asking some indirect questions like, if they often feel exhausted, if any of their family members or closed ones died in Myanmar if they encountered any unusual events if any of their family members have any critical health issue etc. We tried to discover stories from them as much as possible. Each interview session was around 40-45 minutes long. All the interviews were conducted in local languages by the health workers and everything was noted down on papers which were translated into English by the researchers later. After getting a hundred pages of translated data, we analyzed them according to the Open Coding method.

Findings

From our study, we created clusters of two primary findings of their mental condition which were causing a large number of critical health issues, “*Past Trauma*” and “*Uncertainty of Future*”. For

describing their trauma, a list of terms used in describing how they are feeling can be seen in Figure 1.

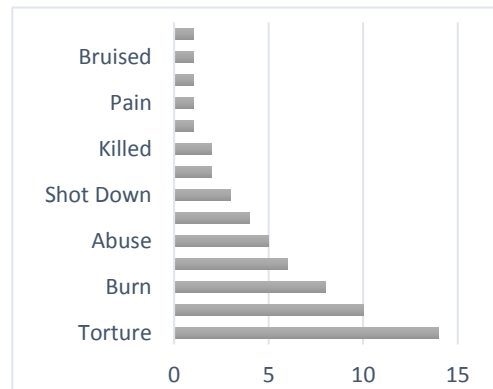


Figure 1: Keywords used by the refugee community.

One woman mentioned how she was tortured before she came to Bangladesh.

“We were victims of the military torture and were taken to schools and tied to rods and also were kept in dark rooms for hours.” – Refugee (Female), 25, Married

Novelty of the approach

From a qualitative study on female Rohingya refugees, we have identified the potential aspects of supporting the mental wellbeing of this community. As we identified the primary pointers for improving their mental wellbeing, our novel approach is proposing the design where technology could be useful through opening up ways to heal the mental wounds as well as open up possible pathways to eliminate uncertainty.



Figure 2: Semi-structured interview with the female Rohingya Refugee

Expected Contribution of our work

By offering design beyond the user, we are proposing a design for the people around them, which may indirectly, affects the person whom we are aiming to help. For example, a customized mental

health application for the health workers or volunteers who are working for this particular community may help them to understand the intensity of a victim's trauma and act accordingly for medication or counseling as per the necessity. Also, toll free service can be offered to get mental support or consultation sessions by expert psychiatrists. Moreover, through the application, video led community support and education can also open up channels for future empowerment.

Challenges

As the Rohingya Refugee Camp Area is a highly protected by the military of Bangladesh and the United Nations, reaching to them was a big challenge for us.

Intersectionality

Yes, intersectionality is certainly present in our work. Here, intersection happens within the domains of mental health, mobile technology, and feminist HCI.

Benefit of attending HCIxB 2019

Designing technology for the refugee community especially for the mental health issue is highly significant in the context of today's world. Bringing the refugee people under the umbrella of HCI may impact in the betterment of million lives globally. By attending HCIxB 2019, I can get prudent feedback from other HCI researchers as well as can make collaboration with researchers interested to work in this issue from different parts of the world.

References:

1. Anonymous. 2018. Rohingya crisis: Myanmar Court extends detention of two journalists. ANI News, Hong Kong.

<https://www.aninews.in/news/world/asia/rohingya-crisis-myanmar-court-extends-detention-of-two-journalists201712280538520001/>, last accessed on December, 2018

2. Anonymous. 2018, Rohingya Crisis, UNICEF

https://www.unicef.org/emergencies/bangladesh_100945.html, last accessed on December, 2018

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Education

- University of Alberta**, Alberta, Canada
M. Eng. in Electrical and Computer Engineering, 2015
- North South University**, Dhaka, Bangladesh
M.Sc. in Electronics and Telecommunication Engineering, 2010
- American International University-Bangladesh (AIUB)**
B. Sc. in Computer Engineering, 2006
(CGPA: 3.91/4.00)
****Vice Chancellor's Gold Medal****

Skills

C	●	●	●	●	●
C++	●	●	●	●	●
Python	●	●	●	●	○
Java	●	●	●	●	○
Matlab	●	●	●	●	○
LaTeX	●	●	●	●	○
Sensors	●	●	●	●	○
PCB Design	●	●	●	○	○
Android	●	●	●	●	○
Additional: Adobe Illustrator, Adobe Photoshop					

Awards and Honors

- Best Poster Award**, HCI across Borders, **CHI 2018** April 21, 2018
- Ubicomp/ISWC 2018 Junior Faculty Travel Grant**, Singapore October, 2018
- ACM SIGCHI Invitation and Participation Grant**, SIGCHI Across Borders Initiative (**SABI**), Swansea University, Wales (UK) June 18-20, 2018
- Research Travel Grant**, (By North South University), BIBE'17 Conference, Washington DC, USA October 23-25, 2017
- Vice Chancellor's Gold Medal**, 6th convocation, American International University-Bangladesh (AIUB) January, 2006
- Distinction of "**Summa Cum Laude**", for Academic Excellence in 6th convocation, American International University-Bangladesh (AIUB) January, 2006
- Merit Scholarship**, American International University-Bangladesh (AIUB) 2002- 2005

Selected Publications

Book Chapter

- Ahsanur Rahman and **Tamanna Motahar**, "Big Graph Analytics.", In Data analytics: Concept, Techniques and applications, Ahmed, M. (Ed.), Pathan, A.S. (Ed.). (2019). Boca Raton: CRC Press, USA January, 2019

Conference Proceedings

- Tamanna Motahar**, Fahim Farden, Atiqul Islam, Rahat Jahangir Rony and Dibya Prokash Sarkar, "Mini-Nurse Bot: A Healthcare Assistance for Elderly People", **Ubicomp'18**, Singapore, (Poster Paper) October 11th, 2018
- Maliha Binte Nur, **Tamanna Motahar**, Sayed Ibn Masud and Emrul Kaiser, "Rickshaw Buddy: A Cost Effective Automated Auto Rickshaw Assistance System", **Ubicomp'18**, Singapore, (Poster Paper) October 10th, 2018
- Tamanna Motahar**, Taskin Fatema and Rajdeep Das, "Bornomala AR- Bengali Learning Experience using Augmented Reality", **Mobile HCI2018**, Barcelona, Spain, (Poster Paper) September 4th, 2018
- Nova Ahmed, **Tamanna Motahar**, Sharmin Kabir and Munir Hasan, "Supporting Missing Daughters", **HCI Across Borders, CHI 2018**, Montreal, Canada **** Best Poster Award **** April 21, 2018
- Mostafa Didar, Zahid Hasan, Rahbar Ahsan and **Tamanna Motahar**, "EZ Parking: Smart Parking Reservation using Internet of Things", in Proc. of **IEEE ICACSI'2018**, Indonesia October 27, 2018

6. Nova Ahmed and **Tamanna Motahar**, “Enabling Undergraduate Female Students in Hands on Learning through Programming Contests”, *The European Conference on Education (ECE2018)*, Brighton, United Kingdom June 29- July 1, 2018
7. **Tamanna Motahar**, Rummana Rahman and Rafiya Hossain, “A Simulation study on Light Scattering Effect on waterborne Bacteriophage Virus using Mie Analysis”, in Proc. of IEEE 17th **BIBE 2017**, Washington DC, USA October 23th, 2017

Journal Paper

- Rummana Rahman, **Tamanna Motahar** and Tahsin Rahman, “Influence of texture depth and layer thickness of crater-like textured ZnO on the efficiency of thin film solar cell”, *International Journal of Structural and Civil Engineering Research*, vol 6, number 2, pp107 May 2017

Workshop Paper

1. **Tamanna Motahar**, “Secret Bot: A Video Streaming, Android Device Controlled Spy Robot”, *Ubicomp’18*, Broadening Participation Workshop, Singapore October 12, 2018
2. **Tamanna Motahar**, “Socio-Technical Aspects of Text Entry”, *Mobile HCI2018*, Workshop on Socio-Technical Aspects of Text Entry, Barcelona, Spain. September 3, 2018

Accepted Workshop Participant

1. ACM SIGCHI Summer School, IIT Bombay, Mumbai, India May 21 – 25, 2018
2. “Introduction to Human-Computer Interaction”, *CHI 2018*, Montréal, Canada April 23, 2018

Leadership Role

1. **Founder Faculty Advisor**, First and only ACM-W Student Chapter, Bangladesh, June 2017- Present
2. Membership Chair, First and only ACM-SIGCHI Chapter, Bangladesh, May 2018- Present

Reviewer

- IEEE sponsored 2017 4th International Conference on Advances in Electrical Engineering (ICAEE), Dhaka, Bangladesh September, 2017

Teaching Experience

- Lecturer, North South University, Bangladesh January 2016 - Present
Department of Electrical and Computer Engineering

Community Involvement

1. Assistant Proctor, North South University October 2018- Present
2. **Founder & Organizer**, Inter University Girls’ Programming Contest 2018
3. Champion, Idea Generation Contest, TechBeez - Women in ICT, Dhaka, Bangladesh 2017
4. Judge, IEEE day’17 Hackathon Competition, IEEE North South Student Brunch 2017

Others

1. **Keynote Speaker**, Digital Women Series, EMK Center, Dhaka, Bangladesh 2018
2. Speaker, Women’s day Celebration. IEEE North South Student Brunch, Dhaka, Bangladesh 2018