Designing gender-sensitive technological innovations for promoting gender equality and women's empowerment in low resource settings

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Introduction

Gender, as a sociological predictor of health, is impacted by the gender specific standards of the responsibilities, character attributes, beliefs, overall strength, and impact which society bestows on it. The dispersion and adoption of digital health, especially in developing countries demonstrates encouraging possibilities to expand access to and availability of life-saving health care solutions, customize healthcare data for poor and disadvantaged communities, and create a healthier system of transparency fostering gender equality. Designing gender sensitive technology for empowering women has been a great innovative step towards empowering women and girls and promoting gender equality. Social and Behaviour change communication have been directly and indirectly designed to empower women. The multi-partner Audiopedia project is designing gender-sensitive technological innovations (Social and Behavior Change Communication, SBCC) for promoting gender equality and women's empowerment in low-resource settings. By making basic education free and accessible to nonreaders, Audiopedia is aiming to increase gender equality and empower women and girls to realize their worth.

According to a comprehensive study[1], digital health efforts can increase partner interaction inside the household, women's decision-making, position in the society, and access to health care services. The latter is especially significant in distant rural locations where there are a scarcity of health experts and facilities, as well as in impoverished and marginalized populations where the expense of transportation to hospital services is prohibitively expensive. Women's independence is increased, allowing them to become more active in health assessment and judgement for both themselves and their families, resulting in improved health outcomes. Improving women's health education is directly related to decision making and agency.

Promoting Gender Equality Within the Program

Keeping the goal of advancing gender equality in healthcare, the GV-Digital Transformation- #SmartDevelopmentFund and IGUHC is providing support to Audiopedia, which is an audio-centric solution being implemented by DAHW (DAHW Deutsche Lepra- und Tuberkulosehilfe e.V.) with IT partner URIDU. Audiopedia is an open-source audible learning network that gives important knowledge to underprivileged groups in the Global South, saving lives and expanding possibilities with a special focus on women. By making basic education free and accessible to nonreaders in specific, Audiopedia aims to increase gender equality and empower women and girls. Due to their projected traditional responsibilities as main caregivers, women are more likely to participate in health and nutrition education initiatives.

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[1] Gill K et al., N.D., *"Influence of mHealth interventions on gender relations in developing countries: a systematic literature review. Int J Equity Health."*

Nonetheless, a report by UN Women reveals that 796 million women over the world remain uneducated today.[2] Such numbers make it ever so necessary for a sustainable and adaptable strategy to deliver information to excluded communities that do not depend on the printed language.

Audiopedia is a worldwide online initiative that combines appropriate and localized SBCC audio information with conveniently accessible hardware and software. The webpage *Audiopedia.IO* was created to give access to free learning to both CBOs/NGOs (community-based organizations/non-profit organizations) and individuals. Audiopedia also offers a number of technology options for making information accessible to both educated and uneducated populations. Solar-powered audio devices, web-apps, messenger services and SD cards are deployed to offer health education in a number of initiatives in Africa, Asia and Latin America.

Audiopedia aims to cover the following problems:

- The dearth of digital alternatives that are tailored to the targeted group's capabilities and circumstances (e.g., distant locations lacking connectivity, illiteracy) exacerbates the digital divide and reveals that health education content is improperly prepared.

- The absence of data on infections and its associated treatment methods The absence of data on infections and associated treatments makes it difficult to disrupt transmission chains, resulting in an overburdening of already vulnerable health systems. This is notably visible during the Covid-19 outbreak, which can only be halted by adhering to sanitary measures and social distancing of the entire population.

- Fake content and disinformation are mostly spread through texting applications such as WhatsApp, which are quite popular among the target audience.[3] To disseminate credible information and combat rumors, the same methods of communications and procedures must be used. Or else, misinformation and conspiracies could have a harmful impact on societal peace as well as personal health.

The focus of DAHW project is to increase community well-being and accessibility to health awareness in the Global South. Reaching out to a broader audience, a Corona Audio Campaign was rolled out in 16 countries to educate communities about COVID-19 infection prevention mechanisms. Below are examples from two of the target countries, Nigeria and Uganda, that illustrate how Audiopedia can be deployed within community-based projects.

Nigeria: According to empirical data, one of the biggest concerns facing women and girls in Nigeria's Southeastern states is a lack of availability to data on healthcare, economical, societal, civil rights, as well as other developmental problems.[4] Poor education and impoverishment amongst some of the women residing in these areas contribute to limited access to data. According to the Nigerian Demographic and Household Survey (DHS) 2018, despite high male illiteracy levels, female illiteracy remains greater than male illiteracy.[5] Furthermore, the poll found that both women and men in the lowest wealth quintile (11 percent and 29 percent, respectively) are much less inclined to be educated than other women and men.

When the COVID-19 swiftly expanded over the world, causing widespread disturbance and deaths, individuals were confronted with many concerns and scant solutions. To address these gaps, conspiracy theories (CTs) evolved. CTs have spread and prospered as a result of the internet and social media. There are various ideas concerning the origins of COVID-19, as well as discussion about the motivations for COVID-19 vaccinations in Nigeria. The scenario assessment indicates a low level of literacy as well as an absence of availability to credible news in a dialect that groups and, in particular, uneducated people comprehend. There are currently health communications instruments printed in several native dialects, however this excludes many groups who might not read or write. The initiative intends to overcome this gap by conveying suitable information while taking into account the poor literacy levels of females by offering these audio recordings in their native languages.

In 2021, 400 women and girls were reached with key messages as per the needs-assessment on e.g. women's health, pregnancy and birth, mental health and violence against women. 200 women and girls in Ngenevu community received Audiopedia messages via WhatsApp; 200 women and girls were reached on their feature phones through

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[2] UN Women, N.D., *"Facts & Figures,"* UN Women.org
[3] Yomi Kazeem, N.D., *"WhatsApp is the medium of choice for older Nigerians spreading fake news,"* Quartz Africa.
[4] OECD, 1st April 2020, *"Women at the core of the fight against COVID-19 crisis."*
[5] National Population Commission Abuja, 2019, *"Nigeria Demographic and Health Survey,"* DHS Program

uploading of messages using external memory cards. Community volunteers accompanied the SBCC campaign while developing capacities in the digital sphere. Further, 300 men were sensitized on gender-based violence that also addresses a subsequent campaign targeting over 2 million people in Southeast Nigeria via radio and social media. Establishing a feedback line, RedAid Nigeria as implementing party received manifold feedback and requests forreferral, e.g. to WACOL in the case of GBV.

1 Digital literacy training - Ngenevu community, Nigeria

In 2022 Nigeria, 120 Local Government Health Supervisors will be educated on the usage of the Audiopedia portals, as well as the translation and dubbing of recent data, educational, and facilities (IEC) into auditory material to enable mainstreaming of the Audiopedia approach in the Nigerian health system. The initiative will also address two million females residing in urban (slum) and rural areas, who are divided into illiterate and moderately literate categories, through engagement and mainstream media activities.

Uganda: Mental, physical and psychological challenges continue to confront the refugees in Palorinya refugee settlement in Moyo district; the victims include men, women and children irrespective of age. Social workers and partners report an upsurge of alcohol abuse and increased illicit brewing among the refugees with the resultant health and social problems. Women and men with trauma symptoms self-medicate with alcohol resulting in other multiple problems such as domestic violence, child abuse and neglect and poor physical health and health-seeking behavior. Sexual Gender Based Violence is on the rise as well affecting mainly women and a few men. The outbreak of COVID-19 and its consequences affected predisposed the beneficiaries (host-and refugee population) exacerbating pre-existing stress- and anxiety levels based on flight, traumatic experiences especially under the aspect of gender-based violence.

In the current project, Audiopedia messages on COVID-19 and Mental Health & Psycho-social Support (MHPSS) were created in the languages Kuku, Madi and Arabi. The Social Workers distributed 70 solar powered mp3 devices to 33 women groups (reaching 392 individuals; 38 males, 354 females) in Palorinya Refugees settlement to raise awareness on COVID-19, MHPSS and substance abuse. The beneficiaries were oriented on how to operate the devices prior to handing them over. During the capacity building, the partner noted quick acquisition of skills on how to power on, off, increase the volume, and select audio contents within devices. Each group of beneficiaries are left with the devices for duration of 3 days before the devices are retrieved and passed over to other beneficiaries. New set of messages are deployed after withdrawal of the devices. The messages address COVID-19 but also psychological distress evidenced by increased cases of alcohol abuse and domestic violence which was even exacerbated as consequence of the COVID-19 outbreak. Further, local music is included to grasp their attention and further as muscle relaxation treatment therapy.

By mid of October, 212 (36 men, 176 women) of the 392 beneficiaries reached through awareness messages on COVID-19 got vaccinated. Further, 11 beneficiaries were able to install hand washing facilities as preventive measure against COVID-19, and beneficiaries from two groups reached through the audio contents were observed paying attention on COVID-19 SoPs by wearing face mask and social distancing during their community meeting

Women groups engaging with the solar players in Palorinya refugee settlement, Uganda

Gender as a Quality Feature of our Work

- The design of the Audiopedia messages and technologies is done with and for the community. Thus, women and girls are engaged to identify and express their knowledge gaps and even develop messages themselves. Ensuring appropriateness and reach of women and girls, 'light' technology is deployed and capacities on digital literacy are built.

Cooperation and Way Forward

- Other partners include women-centered organizations. In the case of Nigeria, women and girls are reaching out to our partner on health and development questions. If further consultation is needed, those women and girls are referred to respective partners such as WACOL.

Learning

- Digital literacy needs to be strengthened for women and girls at all ages, especially as more men as household heads tend to have a smart phone. Even though, Audiopedia encourages the use of 'light' technology, both men and women phone users in rural areas are often not able to use the technology like scanning QR code and listen / see the Audiopedia messages.
- Providing information on health and development for women and girls is one step into the right direction. But changing attitudes and practices, needs further engagement with the community members in order to achieve change.

While Audiopedia activities are still in going-on, we are sure that positive outcomes will yield in the coming months and goal of bringing women closer to literacy and self-awareness will accomplish. The team will utilize the prize money to improve and expand its continuing outreach efforts for women. The intended populace as a whole, particularly disadvantaged and underprivileged groups – especially women – must be proactively persuaded to engage in bridging the digital gap. To reduce gender inequities, outreach at the local level is required. Therefore, we can truly achieve 'Universal Health Coverage' along with "leaving no one behind.

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