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BRIDGING DIABETES MANAGEMENT AND CAPACITY GAPS OF NIGERIAN HEALTH WORKERS DURING COVID-19

According to the World Health Organization, Non-Communicable Diseases (NCDs) were responsible for approximately 71 percent of global deaths in 2021. NCDs are chronic lifestyle-related diseases that are non-infectious. The four main NCDs are cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes. Globally, one in ten people live with diabetes and the number is expected to grow to 643 million people by 2030 and to 783 million by 2045.[1] In 2021, more than 24 million adults lived with Diabetes Mellitus (DM) in Africa, with about half of them undiagnosed.[2] In Nigeria, the World Health Organization estimates that 29 percent of all adult mortalities are due to NCDs. Currently, Nigeria contributes the second highest number of persons (3.6 million adults) living with DM in Africa (only second to South Africa) with a 3.7 percent prevalence in 2021.[3] A review of Nigeria's primary healthcare system found that diagnostic accuracy was low among healthcare workers as only 42 percent of health workers were able to correctly diagnose common conditions such as acute diarrhea with dehydration, malaria with anaemia, pneumonia, tuberculosis, and diabetes.[4] More studies have highlighted poor technical capacity as a significant challenge faced by health workers as they provide care to patients with diabetes.[5,6]

The outbreak of COVID-19 further compounded the problem as an assessment by the World Health Organization on "the Impact of the COVID-19 pandemic on Non-Communicable Disease resources and services" revealed that the rapid spread of COVID-19 across the world impacted the ability of countries to address and respond to NCDs.[7] The service delivery disruption caused by the pandemic also raised concerns about the rising burden of Non-Communicable Diseases globally. Given Nigeria's NCD burden and inadequate health system, service delivery is a big concern.

A three-year Diabetes Awareness and Care (DAC) project was collaboratively implemented by the Federal Ministry of Health (FMoH) and the Health Strategy and Delivery Foundation (HSDF) in Imo State and the Federal Capital Territory (FCT) to increase awareness, access to care and utilization of Type 2 Diabetes Mellitus (T2DM) data by 2021. The project was implemented in 110 health facilities spread across seven Local Government Areas (LGAs)

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[1] International Diabetes Federation (2022) Diabetes, why we need to look beyond mortality https://www.idf.org/our-network/regions-members/europe/europe-news/498:diabetes-as-a-major-risk-factor-for-other-non-communicable-diseases-looking-beyond-mortality.html

[2] International Diabetes Federation (2021) Diabetes around the world in 2021 https://diabetesatlas.org/

[3] International Diabetes Federation (2021) IDF Diabetes Atlas https://diabetesatlas.org/data/en/country/145/ng.html

[4] Kress, D.H., Su, Y. and Wang, H., 2016. Assessment of primary health care system performance in Nigeria: using the primary health care performance indicator conceptual framework. Health Systems & Reform, 2(4), pp.302-318. [Online] Available at: DOI:10.1080/23288604.2016.1234861

[5] Achigbu, E.O., Oputa, R.N., Achigbu, K.I. and Ahuche, I.U., 2015. Knowledge and impact of diabetes in patients in a tertiary clinic in Southeast Nigeria. African journal of diabetes medicine, 23(1). [Online] Available at: https://www.africanjournalofdiabetesmedicine.com/articles/knowledge-and-impact-of-diabetes-in-patients-in-a-tertiary-clinic-in-southeast-nigeria.pdf

[6] Odili, V.U., Isiboge, P.D. and Eregie, A., 2011. Patients' knowledge of diabetes mellitus in a Nigerian city. Tropical Journal of Pharmaceutical Research, 10(5), pp.637-642. [Online] Available at: https://doi.org/10.4314/tjpr.v10i5.13

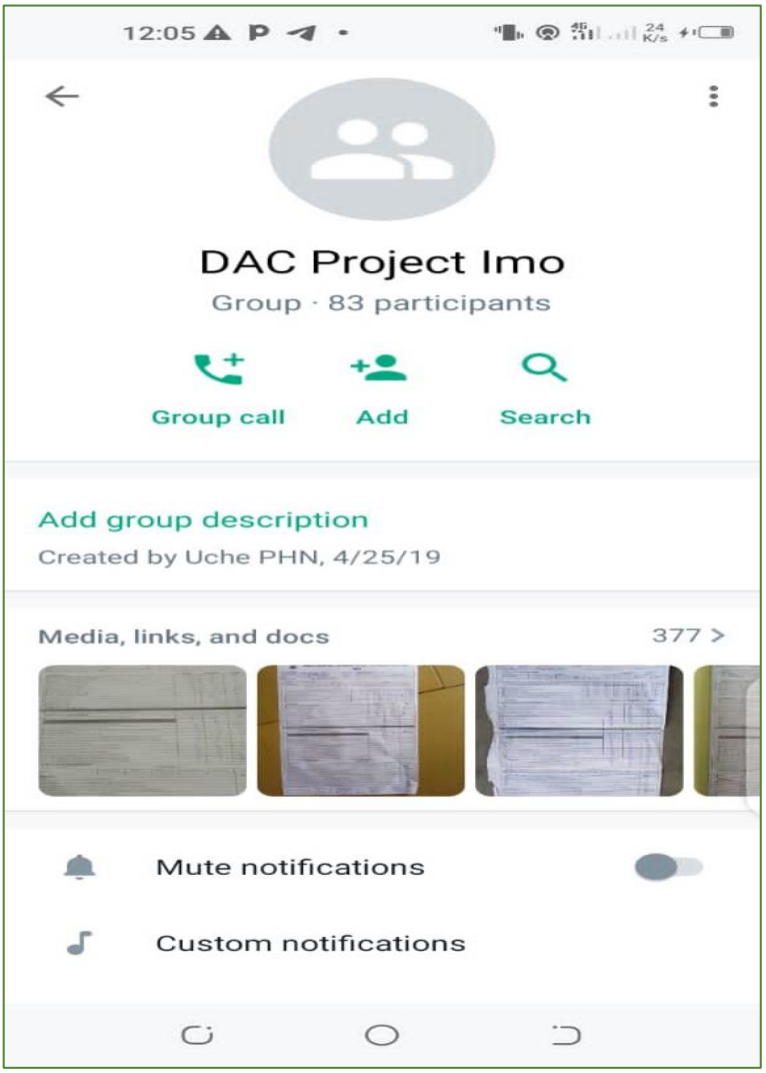
[7] World Health Organization, 2020. The impact of the COVID-19 pandemic on noncommunicable disease resources and services: results of a rapid assessment. [Online] Available at: https://www.who.int/publications/i/item/9789240010291

in Imo state and two area councils in the FCT. Our desk reviews uncovered three critical gaps in diabetes management in Nigeria namely: poor diabetes knowledge, poor diabetes management and weak data reporting systems. Consequently, we proposed that targeting interventions to improve diabetes knowledge, diabetes management and data availability and quality will improve outcomes.

To improve awareness, access to diabetes care, and utilization of T2DM data in Primary Health Centers, we aimed to train 220 healthcare workers on diabetes: its risk factors, screening, basic management, referral procedures, and the use of data tools. We utilized two approaches namely: one-off didactic training sessions and quarterly on-site coaching and mentoring sessions to train 293 health workers (doctors, nurses, midwives, lab scientists, and Community Health Extension Workers (CHEWs)) on T2DM prevention, management and care.

In the wake of the pandemic, we deployed alternative strategies to build the technical capacity of health workers. This brief summarizes the adaptations and processes undertaken to ensure continued support to the DAC project in health facilities during the COVID-19, and lessons learned during the implementation.

Due to the movement restrictions across Nigeria, which resulted from the outbreak of the COVID-19 pandemic and lasted from April 2020 to October 2020, we suspended the didactic sessions and the quarterly mentorship and supportive supervisory visits. To continue providing technical support to the healthcare workers during the pandemic, we utilized structured phone calls made weekly/biweekly, developed and shared short training videos via a dedicated DAC project WhatsApp platform. All these were utilized as stop-gap measures to build the technical capacity of health workers in the peak of the pandemic.



Snapshot of the WhatsApp group for Imo State

Building the capacity of healthcare workers using virtual platforms

During the peak of the COVID-19 pandemic, the Nigerian government implemented measures to curb the spread of the virus. These included movement restrictions, social distancing, compulsory use of face masks and hand sanitizers, and a ban on inter-state movement. These impacted negatively on the capacity-building measures for healthcare workers. Prior to the pandemic (from April 2019 to April 2020), project mentors who were pooled from the Federal Ministry of Health (FMoH) and the State Ministry of Health (SMoH) visited healthcare workers/facilities in Imo State and the FCT quarterly to train the workers, monitor program implementation and discuss challenges faced and mitigation techniques.

Use of WhatsApp Platform

The movement restrictions imposed by the lockdown caused us to modify our approach and utilize WhatsApp (a communication application) to conduct mini training sessions and refresher training on the use of data tools for diabetes management. This strategy ensured continued engagement of the health workers and compliance with movement restrictions.

Furthermore, we leveraged the WhatsApp platform to coach and mentor healthcare workers. We developed and shared short training videos targeted at equipment usage and correct filling of project tools. Additionally, we reviewed and shared the performance of healthcare facilities on WhatsApp by using simple graphs, charts, and scorecards to demonstrate achievements in selected key performance indicators.

Use of phone calls

We utilized a weekly and biweekly phone call schedule to reach out to the focal persons in the 110 project facilities. During the calls, mentors discussed the use of the diabetes screening equipment, use of data tools, basic diabetes management and referrals for patients. The periodic calls also provided an opportunity for the health care workers to share challenges faced while implementing the project deliverables.

These strategies ensured that healthcare workers were supported to provide continuous diabetes management and care during the peak of the COVID-19 pandemic.

Healthcare Worker Reactions

The healthcare workers expressed satisfaction with the WhatsApp platform intervention. Some of the comments made are as follows:

> *"…thank you also for sharing and inspiring us to work and stay safe from day one of COVID-19…".* M.
>
> *" …this is a job well done. ICHH remains grateful to the sponsors, as well as the highly intelligent resource persons. So many lives have been saved…"* O D. F.
>
> *"Thanks so much for the refresher training today. It was amazing that we didn't perform below the program expectations."* P.

Challenges and lessons learned

Additional cost implications for healthcare workers

By utilizing WhatsApp and phone calls, healthcare workers had to spend more money on purchasing data bundles and phone call credit for this purpose, which meant an additional cost implication for the healthcare workers. In addition, poor network connectivity and internet access for some healthcare workers in remote areas affected full participation by all the project facilities. However, to mitigate this, a peer-to-peer mentoring approach could be adapted whereby healthcare workers from nearby facilities would become mentors to the focal persons in the affected facilities.

Cumbersome data validation process

Communicating data entry errors on the Monthly Summary Forms (MSFs) over the phone was initially complex as the healthcare workers had to recheck entries in registers from where data was aggregated into the MSFs. This got easier with time, and the health workers also began to communicate feasible times for the virtual check-ins.

Recommendations

As countries continue to strengthen their biosecurity and health system resilience for future pandemics, it is important for governments and non-state actors to identify potential challenges such as those posed by the COVID-19 pandemic that could impact program implementation and mitigation techniques. It would be helpful to integrate these techniques into the program design and implementation to ensure that there are no gaps in execution.