Short Communication

Response and adaptations made by the integrated child development services stakeholders towards the digitalisation of its record keeping systems of the Anganwadi centres in urban Gujarat, India

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ABSTRACT

Initiated on 12th February 2018, Anganwadi centres (AWC) of Gujarat adapted the integrated child development services common application software (ICDS-CAS), for real time monitoring and record keeping, for Anganwadi workers (AWWs), Anganwadi supervisors (AWS) and the child development project officers (CDPO).This application was abruptly discontinued in September 2020 and replaced by 'Poshan tracker' ,a mobile based application, launched by the ministry of women and child development, government of India on 1st March 2021. Documentation of challenges and benefits due to shift to software-based record keeping system by frontline workers of ICDS in urban Gujarat. Informal meetings were held with stakeholders like the CDPO, AWS and AWWs to discuss the challenges faced due to digitalisation of record maintenance. We planned to conduct two focused group discussions (FGD) for the same purpose. FGDs were conducted at two different Anganwadi, within city corporation area. Audio recordings of both FGDs were repeatedly played and analysed to prepare qualitative report. 'ICDS-CAS' didn't store older records so the AWWs had to refer to their older registers. The software was English based but AWWs preferred Gujarati(local) language. 'Poshan tracker had no 'auto-update' and 'delete' option, to rectify inaccurate entries. One could easily view all the information in one glance. Software database had compiled data from anganwadi, removing the need for supervisors to separately contact each AWWs for an anganwadi data. It was concluded that elder AWWs preferred old register entry system, while the younger AWWs preferred the software data entry system.

Keywords: Anganwadi, ICDS, ICDS-CAS

INTRODUCTION

In India, there exists a substantial network of frontline healthcare professionals geared towards addressing public health concerns. The ICDS, initiated in 1975, is a pioneering early childhood development program designed to cater to the developmental, health, and nutritional needs of young children and expectant and nursing mothers.[1] At the heart of this program are Anganwadi centers, government-sponsored village-level initiatives focused on mother and childcare, primarily serving children aged 0 to 6.[2] To streamline data management and enhance program monitoring, the ICDS-CAS was introduced in February 2018. This software is pre-installed on mobile devices provided to AWWs, facilitating data capture, service delivery tracking, and timely interventions. This data is accessible in near real-time to supervisory staff at various levels, aiding in program oversight.[3,4] In order to monitor the activities of AWC, the application ICDS-CAS digitizes 10 of the 11 registers of Anganwadi employees.[3] However, in September 2020, the CAS app faced discontinuation due to server issues, impeding access to its data for Anganwadi staff.[5] In response, the ' Poshan tracker

application was introduced, aiming to provide a comprehensive view of Anganwadi center activities, service delivery by AWWs, and beneficiary management for pregnant and lactating mothers and children. [6]The digitalization of systems brought about significant changes in the ICDS, particularly in Gujarat, India. This study seeks to examine the challenges faced by ICDS stakeholders, particularly AWWs, as a result of the introduction of software-based record-keeping systems like ICDS-CAS and POSHAN tracker. These systems hold the potential to improve program effectiveness while also posing implementation challenges that need to be addressed for the benefit of mothers and children.

Objectives

Documentation of the adaptations and problems of frontline workers (Anganwadi supervisor, Anganwadi worker, and Anganwadi helper) due to changes in ICDS software-based record keeping system in urban Gujarat, was the objective of this study.

METHODS

Informal meetings were conducted with key stakeholders, including the CDPO, Anganwadi supervisors (AWS), and AWWs, to address challenges arising from the introduction of software-based record maintenance in Anganwadi centers. Following these discussions, two FGDs were organized in different localities within the city corporation area, targeting AWWs. Participants were given a brief introduction to the discussion topics and provided consent to participate. The FGDs lasted for approximately 40 minutes and were recorded for analysis.

Themes explored in the FGDs included the 'ICDS-CAS' software and its advantages and disadvantages, reasons for the discontinuation of 'ICDS-CAS,' the introduction of 'Poshan tracker software, and its merits and drawbacks. The moderator made sure all the participants actively participated in this discussion. Once the responses got saturated the FGD was brought to end by the moderator. This discussion was finally concluded by a vote of thanks by the moderator. Incentives in the form of cash were given to all the participants. The analysis of audio recordings and transcripts was used to prepare a qualitative report, identifying key themes.[7] Eventually the audio recordings of both the FGDs were repeatedly played and analyzed to prepare a qualitative report. The detailed written transcripts were prepared by using the field notes and the audio recordings in MS word.[8] Content analysis was done by reading the transcript again and again. Themes were prepared from the findings of the FGD report.

RESULTS

The FGD that took place at Anganwadi-1 had the participants responding freely with probes by the moderator. Inter-participant interactions were low, but each participant was actively participating individually in the discussion (Figure 5).

The FGD held at Anganwadi-2 was having a contrasting picture. The participants were actively responding without probes and actively interacted in the discussions. There were high inter-participant interactions and each participant got involved in the discussions actively (Figure 6).

One notable finding was the replacement of the 'ICDS-CAS' software with the newer 'Poshan tracker for data recording and management in Anganwadi. In the first FGD (Anganwadi-1), participants were largely supportive of the new software, emphasizing its data security and availability. In contrast, the second FGD (Anganwadi-2) revealed mixed responses. Younger AWWs favoured the software-based system, while older AWWs faced difficulties with data entry and preferred traditional register-based record-keeping.

AWWs highlighted issues with the quality and frequent replacement of mobile handsets provided for operating the ICDS-CAS software. They suggested better-quality handsets to maintain work efficiency. One common concern was the lack of storage for older records in the ICDS-CAS software, necessitating reference to older registers. The introduction of 'Poshan tracker came with its own set of challenges. Users reported issues such as the inability to auto-update data and the absence of a delete option to rectify errors. Language preference was another problem, as the software primarily operated in English, causing difficulties for AWWs who preferred Gujarati.

Transitioning from ICDS-CAS to POSHAN Tracker also caused data record maintenance problems. Despite these challenges, some perceived benefits included easy access to data, reduced need for manual record compilation, and centralized data compilation for supervisors. Additionally, the software displayed home visit coverage by AWWs and eliminated the need for repetitive baseline data entry.

Figure 1: FGD held at Anganwadi 1.
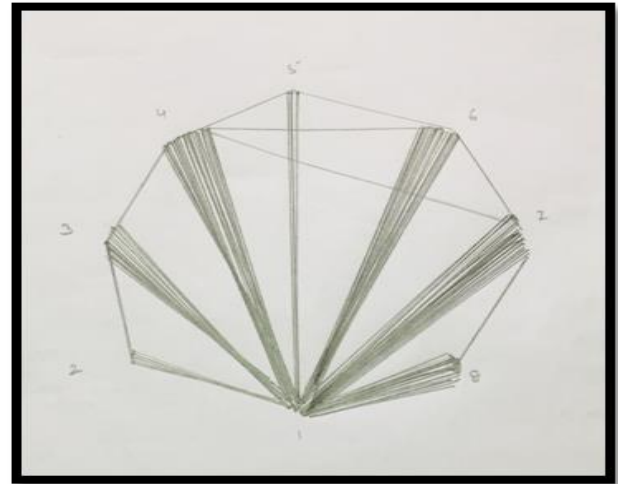
Figure 2: FGD held at Anganwadi 1.

Figure 5: Diagram for the FGD at Anganwadi-1.
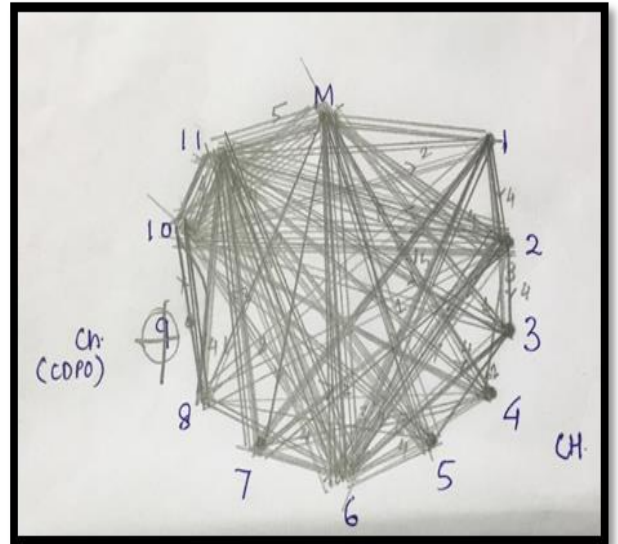

Figure 3: FGD held Anganwadi 2.

Figure 6: Diagram for the FGD at Anganwadi-2.

In summary, the transition to software-based record maintenance in Anganwadi centers presented a mixed picture. While some AWWs and supervisors appreciated the convenience and efficiency of digital systems, others faced challenges related to software usability, mobile handset quality, and language preferences.

DISCUSSION

The study aimed to document the challenges faced by ICDS staff in using software-based record entry and maintenance systems, specifically focusing on ICDS-CAS and the POSHAN Tracker. ICDS-CAS was introduced in 2018 as part of the 'Poshan Abhiyaan' program to address the time-consuming nature of data administration and enhance progress tracking. This software was pre-installed on mobile devices provided to Anganwadi staff, streamlining, and automating data handling processes. But ICDS-CAS was discontinued on

Figure 4: FGD held at Anganwadi 2.

September 2020; later POSHAN tracker was introduced.[3] However, in September 2020, ICDS-CAS was discontinued, and the POSHAN Tracker was introduced as a replacement. The POSHAN Tracker, launched in March 2021 by the ministry of women and child development, aimed to enable real-time monitoring of Anganwadi services through national e-governance division (NeGD).[9]

One of the primary features of the December 2017-launched national nutrition mission (later called Poshan Abhiyan) is information and technology-enabled real-time monitoring of Anganwadi services.[10] As per a study in Chhattisgarh, the introduction of these software systems was expected to enhance AWWs effectiveness in delivering home visit services. It provided access to beneficiary records for customized messaging, educational tools, and timely alerts for visit scheduling and delays.[11] However, as per our study, the transition from ICDS-CAS to POSHAN tracker brought its own set of challenges. AWWs found it confusing and tiring to adapt to the new software system. Poor-quality mobile handsets provided for data entry exacerbated these challenges, as the software often hung during data input as per an AWW from Anganwadi-2. In September 2021, reports indicated that AWWs had returned around 80,000 smartphones due to technical glitches and outdated systems, which hindered their ability to log data.[12] Additionally, in states like Bihar, Chhattisgarh, Jharkhand, Puducherry, Mizoram, Meghalaya, and Nagaland, inadequate connectivity was a common barrier, affecting the functionality of mobile phones at the grassroots level as per a news item from February 25, 2020.[3]

Limitations

The study was conducted in one selected city corporation area so the responses are based on this selected data. The views and responses may differ in different regions and localities. Hence the result of the study cannot be generalised.

CONCLUSION

The advent of digitalization in data entry and maintenance systems within Anganwadi centers brought forth a myriad of challenges and adaptations for ICDS stakeholders.

Among the prominent challenges was the difficulty in adapting to evolving software systems designed for data recording and maintenance. This necessitated the parallel recording of data in both software and traditional registers to ensure data security. Additionally, the utilization of poor-quality handsets, provided for the digitalization of Anganwadi record entry, further compounded the challenges faced by AWWs.

Conversely, digitalization yielded several benefits and advantages. Notably, it centralizes all data from various anganwadi centers onto a dashboard, providing a comprehensive overview at a glance. This eliminates the need for Anganwadi supervisors (AWS) to approach individual AWWs for center-specific details, as such information can be readily retrieved from the digitalized system. Moreover, the system allows for the cross-verification of home visits conducted by AWWs, enabling AWS to monitor AWWs' performance more effectively.

In conclusion, the recent digitalization of the ICDS record maintenance system proved to be both advantageous and challenging for adaptation by AWS and AWWs. Some of the elder AWWs expressed reluctance in accepting the software-based entry system in favor of the older register-based approach. In contrast, many younger AWWs embraced the newly introduced software entry system.

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