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Utilization of Digital Technology in Combating Stunting: Analysis of the Implementation of the Trengginas Application

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ABSTRACT

Malnutrition and stunting are significant public health issues that also impact the quality and capacity of human resources. Stunting, a chronic condition caused by prolonged inadequate nutritional intake, results in growth disorders, including shorter-than-average height and impaired brain development. These challenges can affect a child's academic achievement, productivity, and creativity in later life. Addressing stunting requires comprehensive, collaborative strategies involving various stakeholders. This qualitative descriptive study examines the use of the Trengginas application as an innovative tool to detect and address stunting during the COVID-19 pandemic. Developed by the Semarang City Health Office, the Trengginas application allows stunting detection without requiring direct physical interaction with patients, aligning with pandemic restrictions. Data were collected through interviews with nutrition officers at the Mangkang Health Center, who are responsible for implementing the application. The study found that the Trengginas application requires minimal technical resources: a mobile phone, internet access, a WhatsApp account, and entry of the Population Identification Number and Family Card data. Nutrition officers play a central role in operating the application, which facilitates remote monitoring and intervention for stunting cases. This research highlights the potential of digital health innovations like the Trengginas application in addressing stunting challenges, especially during restrictive conditions such as a pandemic. By leveraging technology, the application supports efficient data collection and intervention delivery, making it a valuable tool in the effort to reduce stunting and improve child health outcomes in Semarang City

Keywords: Digital Technology, Prevention, Stunting, Utilization.

BACKGROUND

Nationally, the prevalence of stunting under-fives will reach 24.4% in 2021. This figure is down compared to the 2019 position which was still 27.69%. The government also targets that the stunting rate of children under five will decrease to 14% by the end of 2024. According to the results of the Indonesian Nutritional Status Study (SSGI), in 2021 as many as 20.9% of children under five years old (toddlers) in Central Java will experience stunting (Kusnandar, 2022).

A total of 3,143 or 3.13 percent of 100,446 toddlers in Semarang City in 2020 experienced stunting. The number of stunting toddlers in the capital city of Central Java province increased compared to 2019, which was around 2.57 percent. According to the Head of the Semarang City Health Service, the Covid-19 pandemic resulted in a low level of family income it had an impact on the low purchasing power of the family and affected the quality and quantity of food available to the family (Alshidqi, 2021).

Malnutrition and stunting are not only seen as health problems but also to the quality and capacity of human resources. This multidimensional problem needs a comprehensive strategy, moving together that involves all parties (Endah Emayanti, SKM, 2021). Stunting is a chronic malnutrition problem caused by a lack of nutritional intake for a long time, resulting in growth disorders in children, namely the child's height is lower or shorter (short) than the standard age. Stunting is not only disrupted by physical growth (short/short stature) but also impaired brain development, which of course will greatly affect ability and achievement in school, productivity, and creativity at productive ages (Kementrian Kesehatan Republik Indonesia, 2018).

One of the efforts to accelerate stunting reduction is regulated in Presidential Regulation (Perpres) Number 72 of 2021 concerning the acceleration of stunting reduction which states that "Acceleration of stunting reduction is every effort that includes Specific Interventions and Sensitive Interventions carried out in a convergent, holistic, integrative, and quality manner through cooperation multisectoral at the center, regions, and villages (Indonesia, 2021).

In addition, to prevent stunting, it must begin in the pre-pregnancy period for women, namely giving blood-added tablets to young women, conducting pregnancy tests and providing additional food to pregnant women to meet the nutritional and iron content of pregnant women, and providing additional food in the form of animal protein to children. ages 6-24 months such as eggs, fish, chicken, meat, and milk (Sadikin, 2022).

During the COVID-19 pandemic, efforts to reduce stunting experienced obstacles, however, nutrition and health services, especially for children and pregnant women, did not stop so that the target for reducing stunting prevalence could be achieved. Families have an active role in the prevention and control of stunting because nutritional problems are closely related to the family environment (Amin, 2021).

One of the ways during the pandemic is to provide access to online health services using the Trengginas application. Regular use of TRENGGINAS is

carried out by empowering mothers of children under five and health cadres through technology-based stunting prevention and control. The purpose of this study is to find out the extent of the implementation of the Trengginas Application (Know, Record, Handling Stunting Child Interventions) during the pandemic.

METHODOLOGY

This research is qualitative descriptive research design research. The qualitative of this research is to reveal events or facts, circumstances, phenomena, variables, and circumstances that occurred during the ongoing research by presenting what happened. Informants in this study are nutrition program holders. In this study, the data collection techniques used were structured interviews with the tools used in this interview, including tape recorders, brochure images, a camera for photos, and other instruments. Structured interviews were conducted wihh informants, namely; nutrition program holder.

RESULTS AND DISCUSSION

From the results of interviews conducted with resource persons, namely the nutrition officer of the Mangkang Health Center, it can be concluded that the application used to detect stunting during the pandemic is the Trengginas Application and this application is an innovation from the Semarang City Health Office to reduce stunting in the city of Semarang which does not require meeting directly with the public patient.

From the results of interviews conducted with resource persons, namely nutrition workers at the Mangkang Health Center, it can be concluded that the implementation of the Trengginas Application by using a cellphone, there must be internet, there is a WhatsApp number and entering the Population Identification Number and Family Card.

This is by research conducted by Zidni Imanurrohmah Lubis the title "Qualitative Analysis of the Use of Telemedicine as a Solution for Health Services in Indonesia during the Covid-19 Pandemic)" that is, based on the Pearson correlation coefficient, it can be seen that in reporting on 4 (four) national online news portals, the concept related to telemedicine has the highest correlation with the government's appeal, which is 0.91. This shows that the use of telemedicine during the pandemic will increase if there is an increase in government appeals. Telemedicine also correlates with startups, users, digital innovation, and IDI appeals, respectively with a value of 0.91, 0.90, 0.83, 0.72, and 0.60. The use of telemedicine by medical personnel and patients can make services effective and efficient both in monitoring, evaluating, and educating during a pandemic like today. With a variety of telemedicine methods, patients can report their symptoms and get advice and direction regarding their illness (Lubis, 2020).

This is also to the research conducted by Maylin Djuana Siboro et al under the title "Factors Influencing the Use of Telemedicine services during the Covid-19 Pandemic Period on Java Island", which is seen from the frequency of use as

many as 68% of respondents agree that they are becoming more frequent. using Telemedicine services during the Covid-19 pandemic (Maylin Djuana Siboro, Antono Surjoputro, 2021).

This is by research conducted by Hj. Hasnah with the title "Implementation of Mobile Phone-Based Academic Values Information System Application" namely the Value Information System application of SMK Negeri 5 Makassar is a desktop and mobile phone-based computer application that can work in a WLAN network. This application is the result of a compilation of the design and development of Borland Delphi and J2ME in the form of an executable file that is connected to a database that is in the MySQL program (Hasnah, 2013)

this relates to research conducted by Trinugi Wira Harjanti and Dedi Irawan about the design and implementation of system applications android and website-based academic information at LP3I jakarta, the results of the implementation of android-based academic information system applications and websites using eclipse version: indigo service release 2 and Microsoft Visual Studio 2008 Development Edition to build and develop systems with using Java programming language, C# and ASP.Net. As well as using JSON as services used in android applications. Before testing, there are several specifications system both hardware (hardware) as well as software that used to build this system (Irawan, 2016)

From the results of the interview conducted with the source, namely the nutrition officer at Mangkang health center, it can be concluded that the Trengginas Application should be operated by cadres and the ones receiving training should be cadres, but in practice, the one using this application is the nutrition officer. This is in accordance with the research by Fanny Fatya Nurul Fatimah et al. titled "Implementation of Business Intelligence in the Dashboard Application for Monitoring Student and graduate performance based on standard 3 Ban-PT bachelor's degree program using the scrum method," which analyzes roles and responsibilities to detail who is involved in the development from a scrum perspective and who will use the dashboard application for monitoring student and graduate performance. The development of this dashboard has roles and responsibilities as product owner, scrum master, and development team. (Fanny Fathya Nurul Fatimah, Murahartawaty 2014)

From the results of the interview conducted with the source, namely the nutrition officer at Mangkang health center, it can be concluded that the obstacles or hindrances in using the Trengginas Application include internet issues, mobile phone usage, WhatsApp, and the lack of Family Cards (KK) and National Identity Numbers (NIK). This is in line with the research conducted by John Philio Simandjuntak titled "overcoming obstacles in the implementation of information systems in institutions (Case study in the process of implementing information systems in an institution)," where the results of the situational analysis and identification of obstacles indicate that the system development in the company has only reached the first stage of CMM. Various real and potential obstacles faced in the development of information systems in the institution

include habitual issues and a lack of understanding of databases, non-standard procedures, prioritization of authority, communicating the Information System Development Plan to Operator Employees, and unclear Owner desires (Simandjuntak 2015).

CONCLUSION

From the results of this research, it can be concluded that during the pandemic, in addressing stunting using the Trengginas application, the resources operating the Trengginas application are nutrition officers. The Trengginas application can be implemented using a mobile phone, requiring internet access, a WhatsApp number, and the input of the Population Identification Number and Family Card. Furthermore, the Trengginas application significantly aids in monitoring and managing stunting cases by enabling real-time data input and retrieval. Nutrition officers can easily track the nutritional status of children and provide tailored interventions based on the data collected. However, challenges such as limited internet connectivity in rural areas and the need for continuous training for nutrition officers to maximize the application's features must be addressed to ensure its optimal utilization. This highlights the importance of integrating technological innovations with community support to effectively combat stunting, especially in underserved regions.

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