COMMUNITY SERVICE ARTICLE

Assistance In The Use And Utilization Of Posyandu Applications For Monitoring Toddler Growth And Development For Posyandu Cadres In Bulak Village Surabaya City, East Java

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ABSTRACT The problems experienced by cadres in the implementation of Posyandu are very large because apart from being a provider of health information to the community, they are also a mobilizer for the community to come to the Posyandu and carry out clean and healthy living behaviors. The identification of problems in the Bulak Village Posyandu, which has 15 Posyandu, is as follows: The reports made by Posyandu cadres after the completion of weighing, recording, counseling, etc. activities often experience delays, even at the end of the new month providing reports to the Kenjeran Health Center. Control or monitoring of unhealthy babies cannot be immediately noticed by the Puskesmas. Reporting Posyandu activities using Form F1 Nutrition / SKDN still manually and sheets of paper. The availability of the Posyandu Application aims to make it easier for Posyandu cadres both in monitoring the growth of babies and toddlers, plan the next activity, and recording baby and toddler data more briefly, and follow the activities that have been carried out. Contribution to the utilization of Posyandu Alikasi, Posyandu Activity Reporting, is shorter. Early detection of diseases suffered by toddlers such as stunting early is known This community service is to adopt the research results of the Toddler Growth and Development Application using the Lecture, Training and Direct Practice. METHOD using the Posyandu Application from the Cadres' Android Phones, Pre-test, and Postest, and Analyzed. The result obtained is that all cadres can use and utilize the Posyandu Application so that a lot of information and monitoring data for babies and toddlers can be accessed at any time. Monitoring the growth and development of babies and toddlers can be easily seen in the form of graphs. The conclusion obtained is that with the success of health cadres in utilizing the real application of toddler growth and development, an improvement in the welfare and health of the community and toddlers of Bulak Village, Surabaya City, was achieved. The implication is that this community service activity has a positive impact on monitoring the growth and development of toddlers.

INDEX TERMS health cadres, posyandu application, monitoring toddler growth and development

I. INTRODUCTION

Kelurahan as a Lurah work area and district or city apparatus within the sub-district work is [1] as stated in the Government Regulation of the Republic of Indonesia number 73 of 2005 concerning villages led by the Lurah who is under and responsible to the Regent/Mayor through the Sub-District. In carrying out the duties as in article 44 of the PP, the Lurah has the function:

a. Implementing village government activities;

b. Community Empowerment ;

c. Community Service, etc.

From the task of community empowerment, it is contained that the Lurah is in charge of empowering the community in various aspects of life, including in the health sector. Meanwhile, Programs, Strategies, and Guidelines for Community Empowerment in the health sector are contained in the Regulation of the Minister of Health Number 8 of 2019. This Permenkes is used as a reference for the Central

Government, Regional Governments, Community Institutions, Community Organizations, the Private Sector, and other relevant stakeholders in realizing the active role and independence of the community to live a healthy life.

In the context of health development, efforts are needed to increase community empowerment in the health sector that is integrated and synergizes with other fields according to authority at various levels of government. In this case, the village can synergize with the Puskesmas. Puskesmas is an implementation of health efforts that are evenly distributed and affordable to the community. Puskesmas has a legal basis that is the basis for its implementation, including Law Number 39 of 2009 concerning Health, Law Number 36 of 2014 concerning Health Workers, Law Number 23 of 2014 concerning Regional Government, Regulation of the Minister of Health Number 75 of 2014 concerning Puskesmas and Regulation of the Minister of Health Number 44 of 2016 concerning Puskesmas Management Guidelines. From this legal basis, it can be seen that the basics in carrying out the role of Puskesmas. From this legal basis, the goal is to improve the highest degree of public health. To achieve this goal, the Government is responsible for planning, regulating, organizing, and supervising the implementation of health efforts that are equitable and affordable to the community. In addition, health workers are also needed to assist in achieving the goal of a high degree of public health. Because health workers have an important role in improving the quality of health services.

One of the Puskesmas activities in health services for babies, toddlers, and parents is Posyandu, BKB (Bina Keluarga Balita), and Posyandu Lansia. Posyandu is a form of community resource health efforts that are managed and organized, by, for, and with the community in the development of the health sector. Especially activities to increase the growth and development of babies and toddlers, basic health for pregnant women, breastfeeding mothers, and women of childbearing age. Research conducted by Ari Indra Susanti, et al. conducted in Pasawahan Kidul Village, Purwakata Regency that the iPosyandu application downloaded from the Playstore is an application that makes it easier for mothers at any time and anywhere to monitor toddler weight growth based on age. This study aims to determine the knowledge and perception of mothers in monitoring the growth of toddlers using the iPosyandu application. Using a descriptive method with a cross-sectional approach. The subjects of the study were 81 mothers with toddlers who were taken using purposive sampling techniques. The results showed that 56% of mothers in the group of 20–35 years and 42% of mothers with 2–3 children had only moderate knowledge. Thirty-eight percent of mothers aged 20–35, 25% with 2–3 children, and most junior high school educated agreed that iPosyandu was beneficial. This research concludes that mothers with sufficient knowledge agree with monitoring the growth and development of toddlers more easily using iPosyandu [2].

Posyandu is one of several public health management efforts that are sourced from the community itself. This means that Posyandu is managed independently from and for the community as a form of empowerment and providing basic health services for the community (Kemenkes R.I, 2012). Posyandu is a form of Community Resourced Health Efforts (UKBM) which is managed from, by, for, and with the community, to empower the community and provide convenience to the community in obtaining basic health services. Efforts to improve the role and function of Posyandu are not solely the responsibility of the government, but all components in the community, including cadres. The role of cadres in the implementation of Posyandu is very large because apart from being a provider of health information to the community, it is also a mobilizer for the community to come to the Posyandu and carry out clean and healthy living behaviors.

Permenkes 2 of 2020 concerning Children's Anthropometric Standards [3] states that Anthropometry is a method used to assess the size, proportion, and composition of the human body. Meanwhile, the Children's Anthropometric Standard is a collection of data on size, proportion, and body composition as a reference to assess the nutritional status and growth trends of children. The Children's Anthropometric Standard is used to establish references in the assessment of nutritional status and growth trends of Indonesian Children, as a reference to identify children at risk of failure to grow without waiting until the child suffers from nutritional problems, as well as as a basis for supporting health policies and public support related to the prevention of growth disorders.

The problems experienced by cadres in the implementation of Posyandu are very large because apart from being a provider of health information to the community, they are also a mobilizer for the community to come to the Posyandu and carry out clean and healthy living behaviors. The identification of problems in the Bulak Village Posyandu, which has 15 Posyandu, is as follows: The reports made by Posyandu cadres after the completion of weighing, recording, counseling, etc. activities often experience delays, even at the end of the new month providing reports to the Kenjeran Health Center. Control or monitoring of unhealthy babies cannot be immediately noticed by the Puskesmas. Reporting Posyandu activities using Form F1 Nutrition / SKDN is still done manually and on sheets of paper. The availability of the Posyandu Application aims to make it easier for Posyandu cadres both in monitoring the growth of babies and toddlers, planning the next activity, and record baby and toddler data more briefly and by the activities that have been carried out. The research conducted by Nita Syahputri et al about the ApplicationToddler uses a waterfall system with analysis, design, coding, and application tests. The development of this information system uses the waterfall method. The

method begins with analysis, design, coding, and then testing the application[4]. The main focus of the work of Buzhardt, JayLeonard, and Julia is to evaluate the adoption and implementation of progress-monitoring practices by infant-toddler-based centers [5]. A different method carried out by Muliyana, et al is to research midwives using the Posyandu application. The activity was carried out in the working area of the Campalagian Puskesmas Posyandu, Polewali Mandar, West Sulawesi with an experimental study with a research sample of midwives who have the task of monitoring growth and development in the Posyandu (integrated Puskesmas) area totaling 20 people. After completing the application, the application is tested on midwives to give their perception of comfort. Midwives have the perception that sisfor_bidanku application easier, but can also use conventional methods [6]. Antonio de Arriba M, Maria Teresa Garcia C, et al retrospectively assess the growth parameters (height, weight, body mass index [BMI], abdominal circumference) entered by the user (caregiver/parent) in the GROWIN application. analyze potential detected health issues and the messages/recommendations that the app displays. Finally, assess the possible impact/benefits of the application on children's growth [7].

The community service carried out this time which is different from some of the authors above by the lecturers of Electromedical Technology Poltekkes Kemenkes Surabaya is to provide assistance and training to Posyandu cadres to minimize the growth and development of toddlers from the results of application research created by one of the service lecturers, namely Mr. Bedjo Utomo, SKM., M.Kes.
Contribution to the utilization of the Posyandu Application, Posyandu Activity Reporting, is shorter. Early detection of diseases suffered by toddlers such as stunting early is known. In realizing community empowerment in the health sector, it can be done with various institutions synergizing, such as cooperation between villages, Puskesmas, Posyandu, and universities in implementing the Tri Dharma of Higher Education, namely Education and teaching; Research; and Community service.
Community Service is an academic community activity that utilizes science and technology to advance community welfare and educate the nation's life. Mitra Village is a village that is used as a partner by the Ministry of Health's Poltekkes in the context of implementing community service.

II. METHODS METHOD AND IMPLEMENTATION
A. METHOD
This Community Service method, first of all, is to apply the results of the Superior Applied Research of Higher Education of the Ministry of Health of the Republic of Indonesia Poltekkes Kemenkes Surabaya in 2020 by Bedjo Utomo, SKM., M.Kes. and Dra. Liliek Soetjiatie, M.Si. entitled: "Design and Build an Android-Based Nutritional

Status Assessment System at Posyandu Puskesmas Surabaya City" Case Study of Developing a Baby Growth and Development Monitoring Application System Using Multi-User. From the study, it was concluded that the application of a nutritional status assessment system for monitoring baby growth and development can be used. This application system can be developed with two versions, namely the web system and android. At the link: http://tumbuhkembangbayi.com/.
The next method is Providing Counseling and Mentoring. In this implementation stage, it uses several materials and equipment, including soft traps (software), namely the Posyandu application downloaded from the Play Store on a smartphone, smartphone specifications must be of the android type with at least 2 GB of ram, with the file name: a nutritional status assessment. The procedure that must be followed is shown below on the Toddler Growth and Development Application:http://tumbuhkembangbayi.com/. Previous research by Puspitasari, Pramudhita Shinta Dewi, and Etikasari has implemented several desktop, web, and mobile-based information systems, but does not yet have complex features such as maternal and child health information management. The purpose of the research is to create an android-based application in the form of an information system for Child Growth and Development Posyandu, which will contain several features such as immunization schedules, monitoring children's growth and development, health news with the development of a sprint design method application. The test results using the User Acceptance Test method of the respondent's android application as a user explained that 80% of the applications are in a Good category and can be used in Posyandu [8].
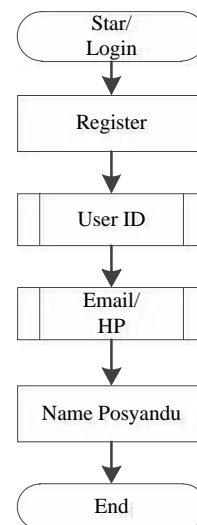

FIGURE 1. New User Registration Model

The next method of mentoring the Pengabdi group to Posyandu cadres is the requirement that each user has an

email account that has been registered, which then the email is used to log in as a new user. Each user must register according to the name of the Posyandu in the Posyandu cadre area can be seen in **FIGURE 1.** The next step is the practice of filling in data according to the toddler data owned by each cadre. A study conducted by Meinita Wulansari, et al, aimed to see the influence of the use of android-based educational media for child growth and development care on increasing maternal knowledge. This study is a quasi-experimental study with one control group and one pretest-posttest control group. Each group was given educational media in the form of the Pekka-making application in the intervention group and Printed Out on the cont print drop for a week. The results showed that there were differences in respondents' knowledge levels before being given the intervention, namely (p-Value = 0.736) on and after being given [9].

B. IMPLEMENTATION

Every new user is required to register with the requirement that each user has an email account that has been registered, which is then used to log in as a new user. Each user must register according to the name of the Posyandu in the Posyandu cadre area: a nutritional status assessment. The procedure that must be followed as shown below on the link application Tumbuh kembang Balita: http://tumbuhkembangbayi.com/. Every new user is required to register with the requirement that each user has an email account that has been registered which is then used to log in as a new user. Each user must register according to the name of the Posyandu in the Posyandu cadre area be seen in **FIGURE 2**.[9].


FIGURE 2 Login Menu for Posyandu Users

Before entering this menu, users can download the play store the android version of the google service, and the name of the Posyandu nutrition status assessment. After being

verified, the user will get a username and password to be able to enter the e_layanan Posyandu application as shown in FIGURE 3. The results of this application using android version 7.0 Nougat from the trial analysis are very good there are no obstacles so at the stage of the menu register up to login very well.

Furthermore, going back to the initial menu can be done by bunking the three dots and if you are going to add a toddler, you can add or add signs. Next, continue the inspection menu back on the main menu and back to swarm the inspection menu. The research of F. Rinawan, et al, explained that overall consistency decreased during the study period due to the Covid-19 pandemic. Data accuracy and consistency may decline during the pandemic. The app will be promising if it is synchronized with the government's health information system[10]. The report menu is a recapitulation data of the
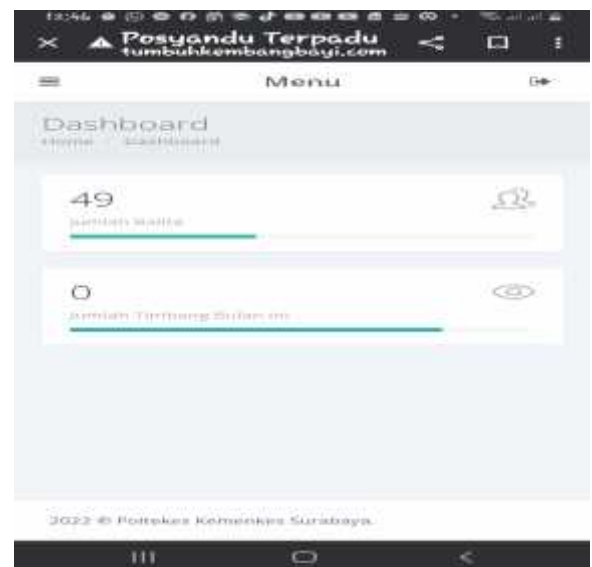
FIGURE 3 Toddler data entry results

results of weighing data and toddler examination according to the data entry stored in the form of the data file. CVS so that later the data can be used for reporting data and development of nutrition programs in Posyandu, because it uses multi-user, the data can be developed in other Posyandu. In the application of the android-based nutritional status assessment system, the data will be in sync with the application system data that is integrated with the web system, namely at URL: https://tumbuhkembangbayi.id so that in the development of this application can be used on the web and android versions. Research by Andi Nugroho, Sarwati et al. Because the data obtained from the cadres will be used by the government to monitor the nutrition of infants and toddlers throughout Indonesia to see the health of the next generation of the Indonesian nation[11]

III. RESULTS

Increasing Knowledge of Bulak Village Health Cadres on e-Report technology Posyandu growth and development of toddlers. The implementation, monitoring, and evaluation of assistance in the use and utilization of the Toddler Growth and Development Application for Posyandu Cadres in Bulak Village have been achieved, with indicators of Changes in the Value of the Questionnaire Results on Health cadres Before Training Socialization of the Use of Toddler Growth and Development Applications and After receiving Training. Via the Question List at the link: https://forms.gle/TzdjQP7keA3G3DCv6

Posyandu information system is a system developed to support data management and analysis. The data recorded includes username and password, mother's identity, pregnant woman's identity, pregnant woman's physical examination results, toddler's identity, and toddler's physical examination results.

FIGURE 4 Socialization of Training on the Use of the Baby's Growth and Development Application

FIGURE 5 Posyandu application socialization activities for Surabaya Great Cadres in Bulak Village, Surabaya

FIGURE 6 Posyandu application socialization activities for Surabaya Great Cadres in Bulak Village, Surabaya

This information can also be accessed by the great Surabaya cadre in the monthly report section of the application. The form has been categorized into monthly and annual reports. Meanwhile, parents can view information about their toddler by performing the following steps: registering using a username and password, logging in with registered credentials, and selecting their children's data that has been recorded by the baby's Growth and Development Information. Information that can be accessed by parents also includes personal identity, physical examination results (pregnant women), their children's identities and physical examination results, as well as maternal and child health books [12].

The list of questioner questions as in the table below

Questionnaire
A. INDICATOR; MEASURABLE
1. In your opinion, are the menus in the application very easy to understand?
2. According to you, filling in the data for toddlers is sufficient enough to know monitoring the growth and development of toddlers
B. INDICATOR; SIMPLE
1. In your opinion, is this application too difficult to work on
2. In your opinion, is the overall explanation of the question menu in this application easy to understand?
C. INDICATOR; TIMELY
1. In your opinion, does it take a long time to fill in this application, about 5 minutes on the toddler registration menu
2. In your opinion, during the data collection process using this application is more efficient than using the usual method in measuring to determine nutritional status. very efficient and very effective
D. INDICATOR ; RELEVANT
1. In your opinion, is this application by the Posyandu activities that I do
2. In your opinion, is this application helpful for me to send nutritional weighing reports to the puskesmas
E. INDICATOR; ACHIEVABLE
1. In your opinion, is this application very useful
2. In your opinion, does this application continue to exist, and can it continue to be developed for Posyandu services?
3. In your opinion, do you feel comfortable using this application and feel it is very suitable for use
4. How, in your opinion, is the Presentation of Resource Persons and the Community Service Program

1	= Very Difficult / Very Dissatisfied
2	= Difficult to Understand
3	= Somewhat Satisfied/ Easy
4	= Satisfied/Easy to understand
5	= very Satisfied / Very Easy to understand

37 respondents had filled out questions related to the use of the toddler growth and development application. With a choice of Answers and scores 1 to 5, as for the score statement, as follows: **FIGURE 7**

(a) Pre Test
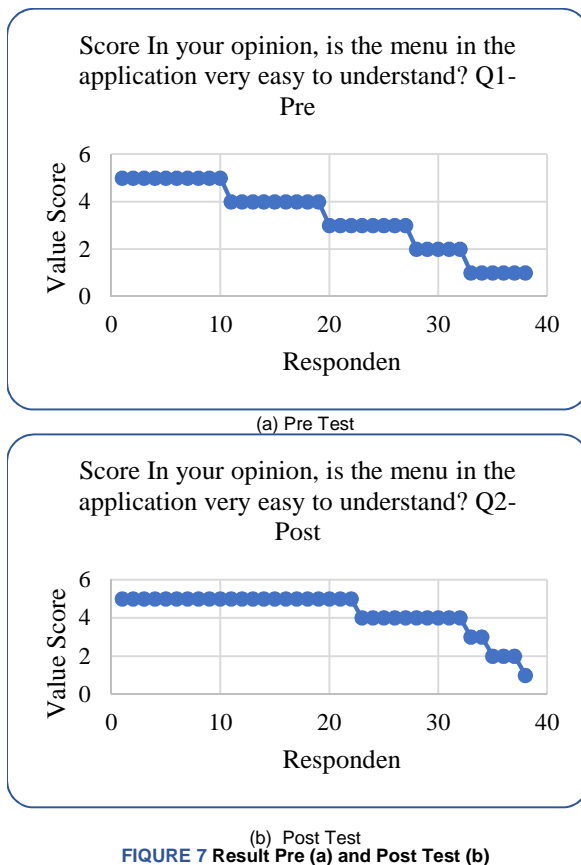
(b) Post Test
FIQURE 7 Result Pre (a) and Post Test (b)

The following is one of the results of Pre and Post Monitoring Assistance in the use of the Toddler Growth and Development Application

The Implementation of Community Service Permits for lecturers and Students of the Surabaya Ministry of Health Poltekkes so that the implementation of this community service further strengthens the Cooperation between the Surabaya Ministry of Health Poltekkes and the Surabaya City Government.

IV. DISCUSSION

From the chart above, after obtaining the training, there is an increase in the understanding of health cadres understanding the menus in the application. More than 70% of cadres very easily understand the menus on the toddler growth and development application, 25% of cadres are easy to understand and only 5% of cadres find it difficult to understand the menus on the toddler growth and development application. Research conducted by Candra Wibawa, et al on the use of computers for health cadres that 59.51% of respondents agreed that the use of computers is needed in operational activities, while still requiring computer training and the use of email and counseling media. Cadres originally only used the internet only for social media needs. Need to

FIGURE 8 Training on the Use of the Baby Growing Application

design accessible electronic media [12].

Research conducted by Husni and Muhammad Ali, the results showed that there was a change in the level of knowledge of cadres, the significant value obtained was 0.001 less than $p < 0.05$. The skills of cadres after receiving training obtained a significance value of 0.003 there is a significant improvement in skills before and after training. Posyandu Application Training for cadres can increase cadres' knowledge about the benefits of using IT-based Posyandu applications. In addition, cadres are trained to practice directly operating the Posyandu application system so that the process of recording, reporting, and monitoring patient progress becomes easier and more effective [13].
FIGURE 9

The participation of Health Cadres in all Community Service activities is marked by a list of attendance and the ability to fill out the Toddler Growth and Development Application to report the results of monthly activities of the Posyandu Balita to be able to see the development of toddler growth. Early Detection of Stunting becomes easier to know. Sunarto Kadir, Selvi A. Ahmad in his study on the relationship between Posyandu and stunting cases in the work area of the South Bulango health center, that monitoring the nutritional status of children in Posyandu serves as a tool for early detection of any growth disorders to prevent stunting. The study was conducted in the Puskesmas / Puskesmas work area in South Bulango. There is a correlation between weighing and spreading with stunting cases in the study area[14].

The result obtained is that all cadres can use and utilize the Posyandu Application so that there is a lot of information and monitoring baby data.

Posyandu Application for Monitoring Toddler Growth and Development for Posyandu Cadres in Bulak Village, Surabaya City, motivated to improve the health of toddlers by enthusiastically participating in training from beginning to end

there is an effect of early detection of growth and development training for Posyandu cadets on motor stimulation skills[16]. Research conducted by Dewi Friska et al, related to stunting and maximizing the performance of health workers in Puskesmas and health cadres. Stunting is a major health issue in Indonesia. From FGDs with Puskesmas staff and health cadres, there is a need for effective educational materials on
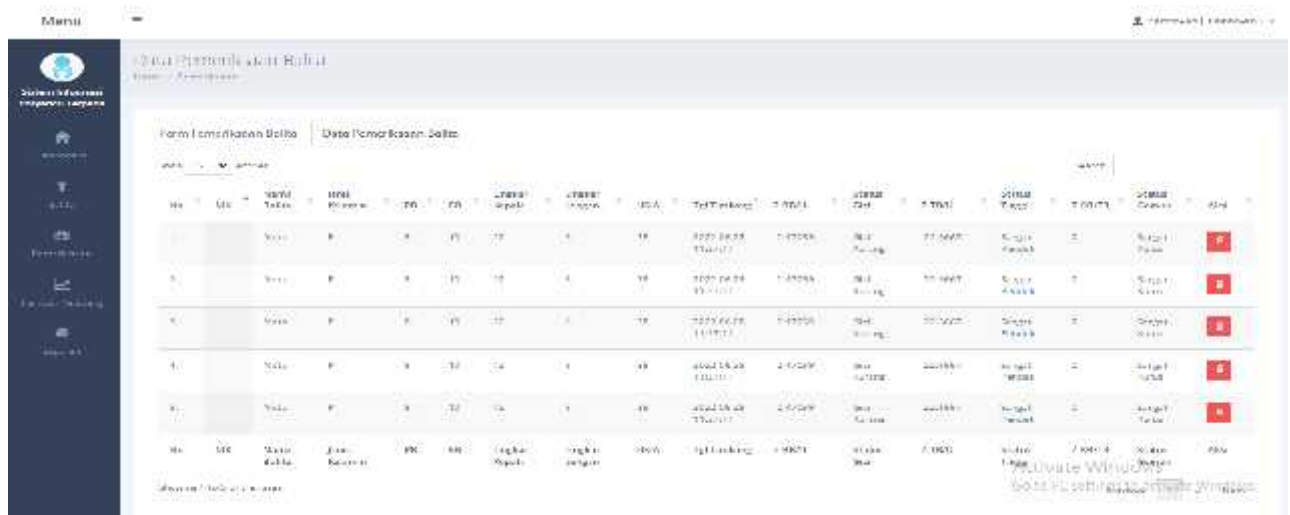

FIGURE 9 results of nutritional status analysis on the iposyandu application

and sending routines weighing results using a toddler growth and development application designed by researchers for at least the last 3 months to find out the growth and development of toddlers quickly, and early detection of stunting. Providing reporting to relevant agencies such as Puskesmas Kenjeran and Bulak Village and Bulak District. A study from Sinta Ftriani, et al on the Effectiveness of training and the use of Si Centing ApplicationsThe purpose of this study is to find out the effectiveness of training and the use of Si Centing Applications, it is concluded that There are differences in the average value of cadre knowledge and skills before and after training and using the Centering application in Singaparna Regency 2020[15]. There is support from Bulak Village, Bulak District, Kenjeran Health Center, LPMK Bulak Village, Babinsa, Babinkamtimas Bulak Village, RW 1 to RW 7, Chairman of the PKK Bulak Village, Chairman of the PKK RW and all Health Cadres who have attended service activities. With support from various parties for community service, it is also very useful for early detection of stunting in the work areas of Puskesmas, kelurahan, and kecamatan, because from the use of the toddler growth and development application, it can be known as early as possible for stunting sufferers, so that they can get handling and follow-up from their families and related agencies as soon as possible. Statistical analysis conducted by Susanti Tria Jaya, et al. using the T-test- The effect of early detection training on the development of Posyandu cadres on motor stimulation knowledge with a p-value = 0.000 means that at 5% alpha,

nutrition and nutritional status of smartphone app-based data recording platforms[17]. Community service conducted by Fitria Prabandari, et al on the benefits of Posyandu application training for health cadres in stunting prevention, resulted in increased skills of Posyandu cadres in stunting detection through cadre training, 26 Posyandu in Karangkelsem Village received assistance with stamp tools and height measuring devices, as well as skills Posyandu cadres. It was concluded that community service increased the knowledge and skills of Posyandu cadres in detecting stunting during the Covid-19 pandemic. this shows that the great Surabaya cadres are skilled in using smartphone applications and have to be continuously supported to be able to meet the targets and goals of the health program in their area. [18][19][20][21]. Posyandu as the spearhead of the implementation of the health program places the role of health cadres very important, therefore the achievement of health indicators, especially the reduction in stunting rates, can be reduced. [22][23][24][25]According to Putu Irma Pratiwi and Ni Nyoman Ayu Desy Sekarini, the use of web-based applications on Posyandu cadres' knowledge about the early detection of stunting, is very significant. Their research design used a pre-experimental method using one group pretest and posttest design. The analysis technique uses a Paired T Test with a confidence interval of 95% and a p-value of <0.05. The use of Web-based applications affects increasing the knowledge of Posyandu cadres about early detection of stunting, the significance value is 0.000, which is less than p 0.05, meaning that there is a significant difference

in the knowledge of Posyandu cadres before the intervention and after the intervention is given[26].

V. CONCLUSION

Based on the results of community service activities on Assisting the Use and Utilization of the Posyandu Application for Monitoring Toddler Growth and Development for Posyandu Cadres in Bulak Village, Surabaya City, motivated to improve the health of toddlers by enthusiastically participating in training from beginning to end and sending routines weighing results using a toddler growth and development application designed by researchers at least the last 3 months to find out the growth and development of toddlers quickly, Akuran and early detection of stunting. Implementation of reporting to relevant agencies such as Puskesmas Kenjeran and Bulak Village and Bulak District about the growth and development of toddlers in their work areas. The next framework is to provide similar assistance to health cadres in other sub-districts of Bulak sub-district and other sub-districts in Surabaya for early detection of stunting.

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