The Medical Equipment Check and Repair Activity for The Community Service at Harmony Clinic

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Abstract. Health is very important for society. People who are sick can seek treatment at the nearest health care facility. Health care facilities include hospitals, health centers and clinics. This service aims to improve medical equipment that will benefit patients who seek treatment at the clinic. The method used in this service is to use DPM (Digital Pressure Meter) equipment and a device from student namely bedside patient monitors used to calibrate the sphygmomanometer. This module is used to perform digital sphygmomanometer testing. The pulse oximetry calibration process was also carried out by measuring the BPM and the saturation level using the Prosim 8 tool. The tool that was repaired was a digital scale that was damaged due to the results of the scales not being appropriate. Then there is also the recording of the results of the calibration of the pulse oximetry and sphygmomanometer on the worksheet. The conclusion of this service activity is that this activity was attended by several lecturers, laboratory assistants, lab instructors and students who have carried out repairs to medical equipment and handed over grants in the form of tensimeters and thermoguns to representatives of the Harmony Clinic.

1 Introduction

Community Service with the Non-Regular Community Service scheme was carried out at the Harmony Clinic on Saturday 11 February 2023. This activity involved lecturers and students and was assisted by Laboran [1][2]. This activity began with briefings from representatives from the Harmony Clinic, namely Mrs. Kartika [3][4][5]. The activity continued with repairing medical equipment that had been prepared by the Clinic [6][7][8][9]. The community service activity ended with a group photo activity.

2 Methodology

In this section will be explained the community service method. This activity is involved the digital blood pressure meter calibration and the pulse oximetry repairing method. The Prosim 8 Calibrator is used for digital tensimeter calibration, SpO2 and BPM. This service activity also repairs digital weight scales, analog weight scales, check cuffs, and baby weight scales.

Mr. Azwar and Mr. Nanang Santoso handled the pulse oximetry tool which had damage to the connecting cable from a broken battery. Mr. Fajar handles the scales. In this

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activity Prosim 8 equipment was also used to calibrate the sphygmomanometer and pulse oximetry.

The digital sphygmomanometer calibration is used to verify an analog sphygmomanometer measuring instrument between a standard device and the analog sphygmomanometer. The purpose of this calibration is to achieve traceability of an analog sphygmomanometer. The process uses Prosim 8, because the cuff on the sphygmomanometer has just been replaced.

3 Result and Discussion

The Community Service activity begins at 09.40 AM on Saturday 11 February 2023 with the presence of Lecturers from Tidar University Magelang namely Mr. Dwi Novianto and his wife who will take part in this Community Service at the Harmony Clinic. The activity began with the task of repairing medical equipment from Mrs. dr. Erna as the Director of the Harmony Clinic which was conveyed by Ms. Kartika as the representative of the Harmony Clinic.

The service team consists of me, Mr. Wisnu Kartika as the Head of Community Service and Mr. Dwi Novianto along with his wife and laboratory assistants (Mas Imam Mustaqim and Mas Irvan Kris Maryanto) and students (consisting of Mas Rangga and friends). This Community Service activity also invited Mr. Nur Hudha Wijaya and Mr. Sigit Widadi but both of them were unable to attend this Community Service activity. This activity also repaired medical equipment and handed over a grant from us to the Harmony Clinic.

The activity began with directions from Ms. Kartika as a Representative from the Harmony Clinic who gave assignments to our Community Service Team. The equipment to be repaired is assisted by a Fluke Biomedical calibrator and a Bedside Patient Monitor calibrator by Department of Medical Electronics Technology Study Program students who have a function similar to Prosim 8 which functions to calibrate digital tensimeters, SpO2 and BPM.

The Prosim 8 Calibrator is used for digital tensimeter calibration, SpO2 and BPM. This service activity also repairs digital weight scales, analog weight scales, check cuffs, and baby weight scales.

Fig. 1. Mr. Wisnu Kartika gives the grant for the Harmony Clinic

The grants submitted were in the form of an aneroid tensimeter and others is shown on Figure 1. The laboratory assistants involved in this activity were Mr. Imam Mustaqim and Mr. Irvan Kris Maryanto. The students involved in this dedication were Rangga Khaerul Ihsan, Fajar Aji Pratama, Febriyadi Mokodompis, Taqwa Anggara Mukti, Nanang Santoso, Syahrani Dian Mareska, and Azwar Rangga Arassaf. This service activity was also assisted by Laboran and several students and Lab Instructors where Mr. Rangga, Mr. Taqwa, Mr.
Febriyadi and Mrs. Rani handled the digital sphygmomanometer which was damaged due to a leaking cuff.

Mr. Azwar and Mr. Nanang Santoso handled the pulse oximetry tool which had damage to the connecting cable from a broken battery. Mr. Fajar handles the scales. In this activity Prosim 8 equipment was also used to calibrate the sphygmomanometer and pulse oximetry. This activity ended with a group photo in front of the Harmony Clinic as shown Figure 2.

![Figure 2](image1.jpg)

Fig. 2. The Community Service teams and Fig. 3. The pulse oximetry troubleshooting and it turns out that the cable on the power battery is disconnected so that the picture above is the process of connecting the cable to the battery source

![Figure 3](image2.jpg)

Fig. 4. The digital sphygmomanometer calibration (Sphygmomanometer Calibration functions to verify an analog sphygmomanometer measuring instrument between a standard device and the analog sphygmomanometer. The purpose of this calibration is to achieve traceability of an analog sphygmomanometer.) process uses Prosim 8, because the cuff on the sphygmomanometer has just been replaced and Fig. 5. Recording the results of the calibration of the pulse oximetry and sphygmomanometer on the worksheet

![Figure 4](image3.jpg)

Fig. 5. Recording the results of the calibration of the pulse oximetry and sphygmomanometer on the worksheet

![Figure 5](image4.jpg)

Fig. 6. Checking the scales that have been cleaned and troubleshooting and Fig. 7. The process of repairing the temperature sensor is because it cannot be read on the screen when it is checked on the body
Fig. 8. Pulse oximetry calibration process and consultation and Fig. 9. The TA device for Sphygmomanometer calibration which is to verify an analog sphygmomanometer measuring instrument between a standard device and the analog sphygmomanometer. The purpose of this calibration is to achieve traceability of an analog sphygmomanometer.

4 Conclusion

The conclusion of this community service activity is that this activity was attended by several lecturers, laboratory assistants, lab instructors and students who have carried out repairs to medical equipment and handed over grants in the form of tensimeters and thermoguns to representatives of the Harmony Clinic.

References

