Factors Affecting the Implementation of SISRUTE Version 2 as Referral System by Public Health Center in Kediri City

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ABSTRACT

The referral system is a crucial component of healthcare services to ensure patients receive optimal care. The Sisrute version 2 application is expected to improve the efficiency of referrals from Puskesmas to higher-level health facilities. This study aims to analyze the factors influencing the implementation of Sisrute version 2 by Puskesmas in Kediri City using a quantitative approach with Pearson correlation analysis. A total of 65 healthcare workers participated as respondents. The results showed that leadership support ($r = 0.578$, $p < 0.01$), communication networks ($r = 0.368$, $p < 0.01$), staff motivation ($r = 0.284$, $p < 0.05$), and training ($r = 0.368$, $p< 0.01$) had significant relationships with Sisrute implementation. Meanwhile, gender, education, and age were not significantly related. In conclusion, the successful implementation of Sisrute version 2 is influenced by leadership support, networks, motivation, and training. Strengthening these factors through supportive policies and competency development can enhance referral system effectiveness.

I. Introduction

Health services are one of the basic needs of the community that must be met quickly, accurately, and efficiently. In its implementation, the referral system is an important component in ensuring continuity of services from first-level health care facilities to referral health facilities. To improve the efficiency and effectiveness of the tiered referral system, the Ministry of Health developed the Integrated Referral System (SISRUTE), an internet-based application that allows health facilities to refer patients in real time and in a coordinated manner (Ministry of Health, 2021). SISRUTE enables health workers at FKTP to determine referral hospitals that suit the patient's needs, including ensuring the availability of equipment, treatment rooms, and medical personnel needed. This aims to reduce waiting times and improve patient safety during the referral process. SISRUTE plays an important role in accelerating access to patient medical information. Patient data that previously had to be sent manually can now be directly accessed by referral facilities through an integrated system (Ministry of Health, 2021).

Kediri City is one of the areas that has implemented SISRUTE in several Public Health Centers and hospitals. It is recorded that this system has been used in 9 Community Health Centers and 13 hospitals as part of the Social Security Agency on Health (BPJS) management information system (Kediri City Health Office, 2023). In the context of services at Primary Health Care, SISRUTE is expected to be able to accelerate the referral process, especially for patients who need specialist services, inpatient care, or the use of medical devices that are not available at the first level. Currently, implementation of SISRUTE is not optimal. Previous studies have identified various technical and non-technical obstacles in the implementation of this system, ranging from limited understanding of infrastructure among staff and policy constraints. One of the main problems is the lack of effective communication between primary health cares such as clinic and public health center with referral hospitals. As a result, there is a

rejection of referred patients because the hospital capacity is full or does not match the available services (Legawati et al., 2024; Sharma & Cotton, 2023; Teddy et al., 2019). Therefore, Ministry of Health tried to overcome the obstacles by developing the system and later called as SISRUTE Version 2. This latest version is equipped with security features that are adjusted to the recommendations of the National Cyber and Crypto Agency (BSSN) in order to maintain the confidentiality and integrity of patient data. Although the latest version offers improvements in terms of security and efficiency, the results of initial studies show that the utilization of SISRUTE Version 2 is still not optimal in Kediri City. This can be seen from the low frequency of system use in most Public Health Center.

The preliminary study showed that 2 of 9 Public Health Centers in Kediri City have never used SISRUTE at all. Meanwhile, 4 Public Health Centers only make less than 10 referrals in a year, and only 3 Public Health Centers consistently use this system more than 10 times (Kediri City Health Office, 2024). There are several factors causing the low utilization of SISRUTE include limited technical understanding of health workers, suboptimal application quality, limited internet network access, and the absence of strict regulations requiring the use of this system in all primary health cares. In addition, the integration of SISRUTE Version 2 with other applications such as P-Care BPJS and SIMPUS has not been fully realized. This limits the scope of system utilization and increases the administrative burden for health workers who have to input data separately in several applications, comprehensive evaluation of the implementation of SISRUTE in areas that have implemented it, including Kediri City, is needed. This evaluation is important as a basis for formulating strategies to improve system utilization and developing policies that support the digital transformation of health services. With the proper use of information technology, an integrated referral system such as SISRUTE can be an effective solution in responding to the challenges of modern health services, as well as improving the quality of services for the community as a whole.

The study aimed to analyse factors affecting the implementation of Sisrute version 2 as referral system in Kediri City.

II. Methods

This study uses a quantitative method with Spearman Range correlation analysis to test the relationship between selected variables. The population in this study were health workers at the public health center in Kediri City who used the Sisrute version 2 application. The sampling technique was carried out by purposive sampling with a sample size of 65 respondents. The variables of research are leadership support, the quality of networks, staff motivation, training, gender, education, and age and the implementation Sisrute application version 2 as referral system. All variables were measured using a questionnaire that has undergone validity and reliability testing. The validity test showed that all of the items of the questionnaire are valid. Here is the result of the reliability testing from each variable: leadership support questionnaire (0,817); the quality of networks questionnaire (0,840); staff motivation questionnaire (0,771); questionnaire of training participation (0,781); questionnaire of Sisrute version 2 implementation (0,819). The study acquired ethical clearance no 0223404/EC/KEPK/I/02/2025 from Universitas STRADA Indonesia.

III. Results and Discussion

Results

Table 1. Description of the Variables

No	Variables	Minimum	Maximum	Mean	Std. Dev
1	Leadership support	10	20	16.75	2.295
2	The quality of networks	8	15	11.92	1,698

3	Staff motivation	9	18	14.03	2,034
4	Training participation	10	20	16.14	2.487
5	Sisrute implementation	12	20	16.28	2.147

Tabel 1 showed that health workers who operate sisrute version 2 are having good support, network quality, motivation, and having proper training to operate sisrute version 2. The implementation of sisrute version 2 as referral system also showed good implementation.

Table 2. Factors affecting the implementation of Sisrute version 2

No.	Variables	p-value	R	Information
1	Leadership support	0.001	0.578	Significantly related. The relationship is weak to moderate
2	The quality of networks	0.002	0.368	Significantly related. The relationship is weak to moderate
3	Staff motivation	0.028	0.284	Significantly related. The relationship is weak
4	Training participation	0.002	0.368	Significantly related. The relationship is weak to moderate

Table 2 shows that leadership support, network quality, motivation, and training are significantly related to the implementation of sisrute version 2 as referral system in public health center. The strength of each variable varies from weak to moderate. Leadership support, network quality, and training are having weak to moderate relationship with the implementation of sisrute version 2 while staff motivation are having weak relationship.

Discussion

Leadership support occupies the most dominant position in the success of SISRUTE implementation, with a moderate correlation value. These results reflect that leaders have a central role in encouraging technology adoption through clear policies, resource allocation, and the formation of an organizational culture that is adaptive to change. Leaders not only serve as administrative decision makers, but also as agents of change who inspire their subordinates to accept and implement innovation (Kozioł-Nadolna, 2020). Leader also has a very important role to accelerate the diffusion of innovation in the organizational environment (Moleka, 2024). The result of the study showed that several public health centers that have a high level of SISRUTE implementation were having supportive leader. Leaders of the organization are actively monitoring, providing technical direction, and space for health workers to discuss and convey technical and non-technical obstacles. On the other hand, in facilities with low SISRUTE implementation, the leaders tended to be passive or had not made this system a priority in managing referral services.

The quality of internet network has a significant relationship with the implementation of SISRUTE. The finding showed that network quality plays an important role, in SISRUTE implementation (Rajamani & Iyer, 2023). The SISRUTE system which is completely online requires a stable, fast, and disruption-free network so that reference data can be sent in a timely manner. In practice, several public health centers in Kediri City reported difficulties in accessing the SISRUTE system due to unstable networks, especially in suburban areas or during peak hours. This obstacle has the potential to disrupt urgent referral processes, ultimately causing officers to return to using manual methods as an emergency alternative.

Staff participation in training is an important factor in improving the technical competence and psychological readiness of officers in using the SISRUTE system, with a significant correlation. Training not only possess the role to transfer technical knowledge, but also as a medium to build self-confidence and a positive attitude towards digital systems. Interview results show that health centers that have higher training intensity, both formal from

the health office and internal training by experienced operators, tend to have better SISRUTE utilization rates (Rodriguez, 2017). Meanwhile, facilities with minimal training face obstacles in using the application, such as confusion in interface, data input errors, and lack of understanding of the electronic referral flow (Mandato & Kulhanek, 2022).

Other factor that could affect SISRUTE implementation is staff motivation. Motivation is an internal driver that influences the quality and consistency of employee performance and it could affect organizational performance (Lee & Raschke, 2016). Staff with high motivation, either due to intrinsic factors (job satisfaction, responsibility) or extrinsic (incentives, recognition), show a more positive attitude in using SISRUTE despite facing technical limitations. Staff who feel valued and supported by the work environment tend to be more proactive in operating the system, finding solutions to obstacles, and acting as agents of change in their work units. In contrast, officers who feel they do not have support or incentives in using SISRUTE consider the system an additional burden that does not have much impact on their daily work (Radu, 2023).

Based on the analysis, it can be concluded that the implementation of SISRUTE is not just a matter of software, but also concerns the readiness of the system as a whole. The success of the implementation is highly dependent on proactive leadership, the availability of a reliable network, ongoing training, and increasing the work motivation of officers. Therefore, the integrative policy intervention is needed, including the preparation of mandatory regulations for the use of SISRUTE, increasing budget allocation for infrastructure, and holding regular training. The local government through the Health Office also needs to form a SISRUTE implementation support team tasked with providing technical supervision, preparing uniformed standard operating procedures, and acting as a liaison between primary health care and referral hospitals. In addition, the integration of SISRUTE with other systems such as P-Care BPJS and SIMPUS needs to be accelerated to improve work efficiency and avoid redundancy in data input.

IV. Conclusion

The implementation of the Integrated Referral Information System (SISRUTE) in Public Health Centers is influenced by various factors. Leadership support, network quality, motivation, and training are significantly related to the implementation of Sisrute version 2 as referral system in public health center. The strength of each variable varies from weak to moderate. Leadership support, network quality, and training are having weak to moderate relationship with the implementation of Sisrute version 2 while staff motivation are having weak relationship.

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