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Imogene King's Theory-Based Telenursing to Improve Medication Compliance in Tuberculosis Patients

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ABSTRACT

Background: Tuberculosis (TB) is an infectious disease with a high health burden that requires patient compliance in taking anti-tuberculosis (ATD) medications. Non-compliance remains a barrier to successful therapy. Telenursing, an information technology-based service innovation, can be utilized to improve patient satisfaction, especially when developed based on Imogene King's nursing theory. **Objective:** Can telenursing based on Imogene King's theory improve medication adherence in TB patients?

Methods: The study used a quasi-experimental design, with an intervention group receiving telenursing services based on Imogene King's theory and a control group receiving health promotion. Data on medication adherence were collected through observation and a medication adherence questionnaire. Data were analyzed using the Wilcoxon Signed Rank test.

Results: The study showed that in the intervention group, the majority of respondents (66.6%) or 10 patients had high medication adherence. Conversely, in the control group, the majority of respondents (66.6%) or 10 patients had only moderate medication adherence. This indicates that telenursing based on Imogene King's theory is more effective than conventional health promotion in improving ATD adherence.

Conclusion: Telenursing based on Imogene King's theory can improve medication adherence in TB patients through reciprocal interaction, therapeutic communication, and the achievement of shared goals between nurses and patients using the SETIA-TB application. The implementation of telenursing based on abortion theory is recommended to support the success of TB therapy and can serve as an innovative service model in the community.

Keywords: anti-tuberculosis medication adherence, imogene king, telenursing, tuberculosis

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BACKGROUND

Pulmonary tuberculosis is a chronic infection caused by Mycobacterium tuberculosis which attacks the lung parenchymal tissue. (Setiyowati et al., 2020) (Wahdi & Dewi Retno Puspitosari, 2021) (Wahdi et al., 2025). In 2020, 30 countries with a high TB burden contributed 86% of new TB cases. Two-thirds of this number came from eight countries, with India as the largest contributor, followed by China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh, and South Africa. Pulmonary tuberculosis in Indonesia was 0.4% in 2013, 0.4% in 2018, pulmonary tuberculosis in East Java was 0.2% in 2013, rising to 0.3% in 2018, and pulmonary TB in Kediri was 0.24% based on Doctor's Diagnosis History (Tim Rikesdes 2018. 2019).

Tuberculosis remains a significant public health challenge in Indonesia, with a relatively high caseload of both drug-sensitive and drug-resistant tuberculosis. (Muflihah & Martha, n.d.). The DOTS strategy has been recommended as the primary approach to ensuring patient adherence to medication. This approach requires the involvement of trained healthcare workers or treatment companions who directly monitor daily medication consumption. According to the 2016 National Tuberculosis Control Program, successful TB program implementation requires support in the form of collaboration and strengthened coordination procedures, as well as strategic partnerships between TB program managers and cross-sectoral, cross-program, government agencies, stakeholders, health insurance providers, and community organizations using services. (Manurung, 2024). Many factors influence the success of TB treatment, including compliance, education, perception, socio-economic status of the patient, and health workers. (Anandita et al., 2023)

The WHO-recommended tuberculosis control strategy is based on several key principles aimed at creating a holistic and sustainable approach. First, the WHO emphasizes the importance of an active government role in evaluating and monitoring the implementation of TB control programs, including strengthening health service management systems. Second, this strategy encourages multi-sector partnerships, involving social organizations, community groups, and non-governmental organizations in promotive, preventive, and curative efforts. Furthermore, the WHO prioritizes the principle of protecting human rights and promoting equal access to health services for all levels of society without discrimination. This strategy also emphasizes the need to adapt tactics and targets according to the social, cultural, and health system contexts of each country, while continuing to build synergy within a global framework. In Indonesia, the implementation of this strategy is reflected in various innovative programs and approaches. Some of these include the Drug Monitoring Program (PMO) aimed at improving patient adherence to treatment, the "Knocking on Doors" initiative for active screening and case tracking, and the "Find Tuberculosis, Treat Until Cured (TOSS TB)" campaign to raise public awareness about finding and completing TB treatment. (Manurung, 2024).

Tuberculosis is curable, but many patients stop treatment too soon. They think they're cured because their symptoms disappear, when in fact, treatment requires six months to be fully effective. (Anwar & Herlina, n.d.). Whether or not a cure is achieved is due to non-compliance or non-compliance with treatment, so efforts to increase compliance with treatment are a priority dilemma in the pulmonary TB control program. (Gashu et al., 2021). Knowledge factors significantly influence the regularity of taking medication for TB patients. (Manurung et al., 2024).

Adherence to treatment is a key factor in successful TB treatment. (Martini et al., 2024). Patients often fail to adhere to treatment for various reasons, such as drug side effects, length of treatment, or limited access to healthcare facilities. Therefore, innovations in monitoring

and supporting TB patients are needed. One emerging approach is telenursing. (Yuliati & Jenniver, 2022). In line with the research conducted (Mawarti & Aini Umaroh, 2023) shows that there is an influence of telenursing on medication adherence in pulmonary tuberculosis patients in the Dukuhklopo Community Health Center work area, Jombang Regency, with the treatment given to respondents being the use of information technology in providing nursing care services to TB patients through Video Education and Consultation. Measurement of medication adherence is seen from regular and complete treatment without interruption during the treatment period determined by health workers with a drug monitoring period of 1 month. Indicators of medication adherence are (1). on time, (2). correct dose, (3). Correct method/use of medication, while the criteria are said to be Non-Compliant if the score is 0-70% and Compliant if the score is 71-100%.

The nursing profession continues to evolve in line with globalization and the rapid advancement of information technology. Public demand for professional, high-quality, and accessible services has led to the emergence of digital-based service innovations, one of which is telenursing. The use of telephone, internet, and video conferencing allows nurses to provide care remotely, especially for patients with chronic illnesses or those living in remote areas. In addition to saving costs and time, telenursing has been shown to increase patient self-efficacy in undergoing treatment. Health education through modules, videos, and interactive media makes information easier to understand, thereby strengthening motivation, improving quality of life, and supporting the success of anti-tuberculosis drug therapy, including in tuberculosis patients. (Wahdi et al., 2025)

The rapid development of information technology has had an impact on the world of health, where the use of information technology can be utilized as a tool to support the development of health services. Compiled data estimates of Internet users in Indonesia from various sources reached at least 45 million at the end of 2010 and according to the Indonesian Internet Service Providers Association (APJII), optimistically it will reach 60 million, mainly driven by the trend of mobile access. Compiled market survey data shows that Indonesia has the highest ratio of internet access device ownership, the largest increase in the number of gadgets and the sharpest decline in service rates (including Internet data packages) in the ASEAN region, despite the issue of economic recession. (Salahuddien, 2011). This is in line with the research results that 100% of tuberculosis patients at the Ngasem Community Health Center use mobile phones that can access the internet or Android mobile phones.

Telenursing is a nursing service that utilizes telecommunications technology to overcome the limitations of physical distance between nurses and patients. (Amudha et al., 2017). This practice includes telephone triage, provision of care facilities, and nursing care management. (Eriksson et al., 2020). Telenursing, a primary service for caring for chronic patients at home, refers to the provision of nursing services through the use of telecommunications technologies such as telephones, computers, telemonitoring devices, and the Internet. The use of these technologies leads to faster patient access to better care at lower costs, easier access to the most appropriate professional skills, and an overall improvement in the quality of healthcare delivery. (Dadgari et al., 2017). In the context of tuberculosis treatment, telenursing has been widely used to monitor patient compliance in taking medication, thus becoming a relevant tool to support the success of therapy. (Mawarti & Aini Umaroh, 2023).

Telenursing will be more optimal if developed based on Imogene King's Goal Attainment Theory. This theory emphasizes the importance of the reciprocal relationship between nurses and patients in the nursing care process. This interaction is mutually influential, with the ultimate goal of reaching a mutual agreement. According to King, the core of her

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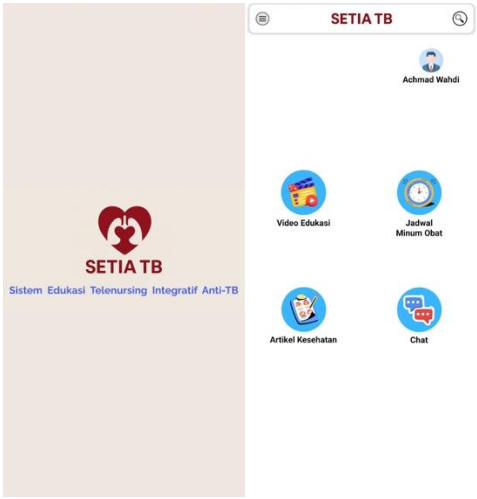
theory lies in the transaction process, namely the exchange of information and actions between nurses and patients that result in care goals. In developing her theory, King used non-participant observation methods to understand verbal and nonverbal interactions, allowing nurses to collect data without being directly involved in the patient's life. Through this approach, telenursing can be more focused, effective, and tailored to the individual patient's needs. (Sukartini, 2015). In line with the research conducted (Sunaringtyas et al., 2023) Imogene King's theory can improve medication adherence in hypertensive patients.

Telenursing based on Imogene King's theory



Picture 1: Application SETIA-TB

METHODS

This research was conducted at the Ngasem Community Health Center in Kediri Regency. This quasi-experimental study used a pre-post test control group design. This design involved two groups. Medication adherence was measured in each group. Afterward, a telenursing intervention based on Imogene King's theory was administered using the SETIA-TB telenursing application, which included educational videos, an alarm to remind patients to take their medication, health articles about tuberculosis, and a chat with the researcher for consultation. Medication adherence was reassessed after the intervention. The population was 30 tuberculosis patients at the Ngasem Community Health Center in Kediri Regency. The sample size was 30 patients: 15 in the intervention group and 15 in the control group. The intervention group received education using the SETIA-TB telenursing application for 8 weeks. The control group received educational intervention using a PPT and leaflets. The research instrument used the MMAS-8 (Morisky Medication Adherence Scale) questionnaire. Data analysis used the Wilcoxon Signed Rank Test. This research has undergone ethical testing with the number: 35/SGH/HRECC/VI/2025.

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RESULTS

Distribution of Respondents in the Intervention Group and Control Group

Table 1. Distribution of Respondents in the Intervention Group and Control Group

Respondent Characteristics	Intervention (n=15)		Control (n=15)	
	F	%	F	%
Age				
1-5 year	1	5.3	1	5.3
21-35 year	2	15.8	2	5.3
36-45 year	7	42.1	4	21.1
46-60 year	5	36.8	8	47.4
Total	15	100	15	100
Gender				
Man	10	66.6	10	66.6
Woman	5	33.3	5	33.3
Total	15	100	15	100
Education				
Kindergarten	1	6.6	1	6.6
Elementary School	1	6.6	4	26.6
Junior High School	5	33.3	3	20
Senior High School	8	53.3	7	42.1
Total	15	100	15	100
Work				
Work	10	66.6	10	66.6
Doesn't work	5	33.4	5	33.4
Total	15	100	15	100
Smoke				
No	5	33.4	4	26.6
Yes	10	66.6	11	74.4
Total	15	100	15	100
Duration of TB Treatment	15	100	15	100
Fase Intensif	0	0	0	0
Advanced Phase				
Total	15	100	15	100

Based on table 1, it can be seen that almost half of the respondents in the intervention group (42.1%) were aged 36-45 years and almost half of the respondents in the control group (47.4%) were aged 46-60 years. The characteristics of the respondents in the intervention group based on gender were half (52.6%) male and the majority of the respondents in the control group (73.7%) male. The characteristics of the respondents in the intervention group based on education were half (53.3%) high school graduates and the respondents in the control group were half (57.9%) high school graduates. The characteristics of the respondents in the intervention group based on occupation were half (42.1%) working and the respondents in the control group were half (57.9%) high school graduates.

Analysis of the results of adherence to taking antituberculosis medication in the intervention group and control group before being given telenursing based on Imogene King's theory

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Table 2. Analysis of the results of adherence to taking antituberculosis medication in the intervention group and control group before being given telenursing based on Imogene King's theory**.**

No	Compliance with taking medication	Intervention		Control	
		Frequency (n)	Persentase (%)	Frequency (n)	Persentase (%)
1	Low	7	46.6	8	53.3
2	Medium	5	33.3	6	40
3	High	3	20	1	6.6
	Total	15	100	15	100

Primary Data 2025

Based on Table 2, it shows that of the 15 respondents in the intervention group, almost half (46.6%) experienced low medication adherence before the provision of telenursing based on Imogene King's theory, and of the 15 respondents in the control group, half (53.3%) also experienced low medication adherence before the provision of health promotion.

Analysis of the results of adherence to taking antituberculosis medication in the intervention group and control group after being given telenursing based on Imogene King's theory

Table 3. Analysis of the results of adherence to taking antituberculosis medication in the intervention group and control group after being given telenursing based on Imogene King's theory.

No	Compliance with taking medication	Intervention		Control	
		Frekuensi (n)	Persentase (%)	Frequency (n)	Persentase (%)
1	Low	0	0	3	20
2	Medium	5	33.4	10	66.6
3	High	10	66.6	2	13.3
	Total	15	100	15	100

Primary Data 2025

Based on table 3, it shows that of the 15 respondents in the intervention group, the majority (66.6%) experienced high compliance with taking medication after being given telenursing based on Imogene King's theory, and of the 15 respondents in the control group, the majority (66.6%) also experienced moderate compliance with taking medication after being given health promotion.

Analysis of Telenursing Based on Imogene King's Theory in Improving Medication Compliance in TB Patients

Table 4. Analysis of Telenursing Based on Imogene King's Theory in Improving Medication Compliance in TB Patients

No	Compliance with taking medication	Intervention				Control			
		Pre		Post		Pre		Post	
		n	%	N	%	n	%	n	%
1	Low	7	46.6	0	0	8	53.3	3	20
2	Medium	5	23.3	5	33.4	6	40	10	66.6
3	High	3	20	10	66.6	1	6.6	2	13.3
	Total	15	100	15	100	15	100	15	100
	Uji *Wilcoxon*	0,001				0,317			

Primary Data 2025

Based on Table 5, it shows that of the 15 respondents in the intervention group, almost half (46.6%) experienced low medication adherence before the Imogene King theory-based telenursing was provided, and of the 15 control groups, half (53.3%) also experienced low medication adherence before providing health promotion, indicating that of the 15 respondents in the intervention group, the majority (66.6%) completed taking high medication after the Imogene King theory-based telenursing was provided, and of the 15 intervention groups, the majority (66.6%) also experienced fulfilling medication adherence after the health promotion was provided.

Based on the Wilcoxon Sign Rank test in the intervention group, the P value was obtained = 0.001 and the α value = 0.05, meaning P < α, so Ho was rejected, meaning that telenursing based on the Imogene King theory could improve providing medication to TB patients. Meanwhile, in the control group, the P value was obtained = 0.317 and the α value = 0.05, meaning P > α, so Ho was accepted, which means that telenursing based on Imogene King's theory could not increase the provision of medication to TB patients.

DISCUSSION

Compliance with taking medication before being given telenursing based on Imogene King's theory

The results of the analysis of the level of compliance with taking anti-tuberculosis medication before being given an intervention in the form of telenursing based on Imogene King's theory regarding compliance with taking anti-tuberculosis medication in the intervention group in Table 2 show that the majority of respondents (46.1) 7 patients with low compliance with taking anti-tuberculosis medication. The facts found in the field during initial observations were that patients undergoing tuberculosis treatment were not compliant in taking anti-tuberculosis medication, because patients after taking the medication felt nauseous and their heart beat faster. In general data, data on the distribution of respondents based on the characteristics of the duration of therapy were obtained in full (100%) 15 patients with the intensive phase, while in terms of gender characteristics, almost half (66.6) 10 patients were male. Research conducted According to (Yulianti et al., 2019) Tuberculosis treatment takes a long time, between 6 and 9 months, to achieve a cure. The lengthy treatment period can make patients feel bored and tired, which can lead to non-compliance with medication. (Paweswari, 2016), There are several reasons why pulmonary tuberculosis patients do not take their medication, namely that tuberculosis medication must be taken for a long period of time, that patients will feel cured due to reduced or disappeared symptoms after undergoing therapy for 1-2 months or more, so that patients are reluctant to continue treatment, and that there are side effects caused by the tuberculosis medication. (Chaudhry et al., 2015) Various factors that influence the level of compliance include poverty levels, disrupted drug supplies, distance from healthcare services, misperceptions about treatment, drug toxicity, migration or change of residence, social environment, alcohol, and psychological factors. (Afilla Christy et al., 2022) The high incidence of tuberculosis in male patients is due to the fact that men frequently spend time outside the home to earn a living. This frequency of going out facilitates the transmission of tuberculosis. Furthermore, high mobility, smoking, and alcohol consumption in men can reduce the body's immunity, making them more susceptible to tuberculosis infection. This is in line with Notoatmodjo's research. (2011) Women pay more attention to their health than men. Therefore, women are less likely to contract tuberculosis. This factor indicates that men are believed to be more susceptible to infection than women. Based on facts and theory, there is a similarity that the length of therapy results in non-adherence of patients taking anti-tuberculosis medication. This is due to insufficient health education about adherence to anti-tuberculosis medication. Patients who have undergone advanced tuberculosis treatment feel bored and feel

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their condition has improved after undergoing 4-6 months of therapy taking anti-tuberculosis medication. Gender also influences adherence to taking anti-tuberculosis medication, where men are mostly less concerned with their health compared to women who prioritize and maintain their health, men to meet the needs of their families.

Compliance with taking medication after being given telenursing based on Imogene King's theory

The analysis of anti-tuberculosis medication adherence levels following telenursing intervention based on Imogene King's theory of anti-tuberculosis medication adherence in the intervention group (Table 3) shows that the majority of respondents (66.6%) (10%) had high anti-tuberculosis medication adherence, while in the control group, after health promotion, the majority of respondents (66.6%) (10%) had moderate anti-tuberculosis medication adherence.

The nursing profession continues to evolve with globalization and rapid advances in information technology. Public demand for professional, high-quality, and accessible services has driven the emergence of digital-based service innovations, one of which is telenursing. The use of telephone, internet, and video conferencing allows nurses to provide remote care, especially for patients with chronic illnesses or those living in remote areas. In addition to saving costs and time, telenursing has been shown to increase patient self-efficacy in undergoing treatment. Health education through modules, videos, and interactive media makes information easier to understand, thus strengthening motivation, improving quality of life, and supporting the success of anti-tuberculosis drug therapy, including in tuberculosis patients. (Wahdi et al., 2025).

The rapid development of information technology has had an impact on the world of health, where the use of information technology can be utilized as a tool to support the development of health services. Compiled data estimates of Internet users in Indonesia from various sources reached at least 45 million at the end of 2010 and according to the Indonesian Internet Service Providers Association (APJII), optimistically it will reach 60 million, mainly driven by the trend of mobile access. Compiled market survey data shows that Indonesia has the highest ratio of internet access device ownership, the largest increase in the number of gadgets and the sharpest decline in service rates (including Internet data packages) in the ASEAN region, despite the issue of economic recession. (Salahuddien, 2011). This is in line with the research results that 100% of tuberculosis patients at the Ngasem Community Health Center use mobile phones that can access the internet or Android mobile phones.

Telenursing is a nursing service that utilizes telecommunications technology to overcome the limitations of physical distance between nurses and patients. (Amudha et al., 2017). This practice includes telephone triage, provision of care facilities, and nursing care management. (Eriksson et al., 2020). Telenursing, a primary service for caring for chronic patients at home, refers to the provision of nursing services through the use of telecommunications technologies such as telephones, computers, telemonitoring devices, and the Internet. The use of these technologies leads to faster patient access to better care at lower costs, easier access to the most appropriate professional skills, and an overall improvement in the quality of healthcare delivery. (Dadgari et al., 2017). In the context of tuberculosis treatment, telenursing has been widely used to monitor patient compliance in taking medication, thus becoming a relevant tool to support the success of therapy. (Mawarti & Aini Umaroh, 2023).

Telenursing will be more optimal if developed based on Imogene King's Goal Attainment Theory. This theory emphasizes the importance of the reciprocal relationship between nurses and patients in the nursing care process. This interaction is mutually influential, with the ultimate goal of reaching a mutual agreement. According to King, the core of her

theory lies in the transaction process, namely the exchange of information and actions between nurses and patients that result in care goals. In developing her theory, King used non-participant observation methods to understand verbal and nonverbal interactions, allowing nurses to collect data without being directly involved in the patient's life. Through this approach, telenursing can be more focused, effective, and tailored to the individual patient's needs. (Sukartini, 2015). In line with the research conducted (Sunaringtyas et al., 2023) Imogene King's theory is able to increase medication compliance in hypertensive patients.

The analysis results showed that the telenursing intervention based on Imogene King's theory was able to improve medication adherence in tuberculosis patients in the intervention group, where the majority of respondents (66.6%) achieved a high level of adherence. In contrast, in the control group that only received health promotion, the majority of respondents (66.6%) actually had a moderate level of adherence. These findings emphasize that telenursing, especially when developed with Imogene King's theory approach, is effective in building reciprocal interactions, strengthening motivation, and helping patients achieve shared goals in treatment. Thus, telenursing based on nursing theory can be an innovative strategy in increasing the success of tuberculosis therapy in the digital era.

Analysis of Telenursing Based on Imogene King's Theory in Improving Medication Compliance in TB Patients

Based on the Wilcoxon Sign Rank test, the intervention group obtained a P value of 0.001 and an α value of 0.05, meaning $\rho < \alpha$. Therefore, Ho was rejected, indicating that telenursing based on Imogene King's theory could improve medication adherence in TB patients. Meanwhile, in the control group, a P value of 0.317 and an α value of 0.05, meaning $P > \alpha$, therefore, Ho was accepted, indicating that telenursing based on Imogene King's theory could not improve medication adherence in TB patients.

Compliance of tuberculosis patients with anti-tuberculosis drug therapy (OAT) is a determining factor in treatment success. Non-compliance can lead to the risk of drug resistance, prolonged treatment duration, and even increased morbidity and mortality. The results of the study indicate that telenursing interventions based on Imogene King's theory were able to improve patient adherence, with the majority of respondents in the intervention group achieving high levels of adherence. This emphasizes the important role of therapeutic interactions based on nursing theory in maximizing the effectiveness of information technology. (Nabila, 2023).

Adherence to treatment is a key factor in successful TB treatment. (Martini et al., 2024). Patients often fail to adhere to treatment for various reasons, such as drug side effects, length of treatment, or limited access to healthcare facilities. Therefore, innovations in monitoring and supporting TB patients are needed. One emerging approach is telenursing. (Yuliati & Jenniver, 2022)

Telenursing is defined as a process of providing, managing and coordinating care and providing health services through information and telecommunication technology. (Asmirajanti & Sukarno, 2021). The technology that can be used in telenursing is very varied, including via telephone, smartphone, computer, audio and video conferencing, personal digital assistants. Telenursing services have been known and used by several developing countries for quite a long time, such as the United States, which reported a 36% increase in the need for home care nurses that can be addressed through telenursing. In the UK, 15% of home care patients need telecommunications technology, seeing the large number of patients at home receiving telenursing services. Likewise in Japan; Hong Kong; India. Most health services in Asia in telehealth-nursing use non-real-time consultation and video conferencing methods via ISDN Line, Mobile phone or wireless. Based on the results of the study, it proves that 40% of

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research related to telenursing applications indicates an increase in the quality of health services and clients give a very good response. (Asmirajanti & Sukarno, 2021).

Telenursing will be more optimal if developed based on Imogene King's Goal Attainment Theory. This theory emphasizes the importance of the reciprocal relationship between nurses and patients in the nursing care process. This interaction is mutually influential, with the ultimate goal of reaching a mutual agreement. According to King, the core of her theory lies in the transaction process, namely the exchange of information and actions between nurses and patients that result in care goals. In developing her theory, King used non-participant observation methods to understand verbal and nonverbal interactions, allowing nurses to collect data without being directly involved in the patient's life. Through this approach, telenursing can be more focused, effective, and tailored to the individual patient's needs. (Sukartini, 2015). In line with the research conducted (Sunaringtyas et al., 2023) Imogene King's theory is able to increase medication compliance in hypertensive patients.

The application of Imogene King's theory-based telenursing to improve medication adherence in tuberculosis (TB) patients is an innovation oriented toward interaction, communication, and the shared achievement of health goals between nurses and patients. Imogene King's theory emphasizes three main systems in nursing: the personal, interpersonal, and social systems, which are interconnected in the effort to achieve health goals (goal attainment). In the context of TB patients, this theory is relevant because adherence to anti-tuberculosis medication (OAT) requires good communication, a continuous therapeutic relationship, and support in overcoming internal and external obstacles.

Telenursing utilizes long-distance communication media such as telephone, the internet, and digital applications to provide education, monitoring, and psychosocial support to patients. In practice, nurses can monitor medication schedules, provide reminders, address complaints, and provide motivation. This approach aligns with Imogene King's Goal Attainment Theory, which emphasizes the transactional process between nurses and patients. Transactions occur when nurses and patients exchange information, establish shared goals, and work together to achieve them. Thus, medication adherence is not merely instructional, but rather the result of an active agreement between both parties.

The study also showed that the control group, which only received health promotion, had moderate adherence rates. This suggests that one-way education without reciprocal interaction is less effective in optimally increasing patient motivation. Imogene King's theory emphasizes that the success of an intervention is influenced by the quality of communication and shared goals between nurses and patients. Through telenursing, this interaction can be facilitated effectively because nurses have continuous access to monitor and support patients in real time.

Furthermore, the development of information technology in Indonesia, marked by high smartphone ownership and internet access, is a contributing factor to the success of telenursing. TB patients, the majority of whom have digital access, can easily receive reminders, interactive educational materials, and engage in two-way communication with healthcare professionals. This strengthens the effectiveness of telenursing in building patient self-efficacy, increasing understanding, and maintaining patient motivation throughout long-term treatment.

Therefore, it can be concluded that telenursing based on Imogene King's theory is an effective nursing service innovation in improving medication adherence in tuberculosis patients. The combination of digital technology and nursing theory approaches can strengthen therapeutic interactions, facilitate the achievement of shared goals, and support the success of sustainable TB therapy.

CONCLUSION

Imogene King's theory-based telenursing can improve medication adherence in TB patients through reciprocal interaction, therapeutic communication, and the achievement of shared goals between nurses and patients using the SETIA-TB application.

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