Original Article

Determinants of the Utilization of Non-Communicable Disease Health Services

Leny Marlina[1], Teuku Tahlil[2], Asniar[3]

[1]Master Program of Nursing Science Student, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, [2,3]Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia

How to cite this article: Leny Marlina, Teuku Tahlil, Asniar. Determinants of the Utilization of Non-Communicable Disease Health Services. International Journal of Nursing Education / Vol. 17 No. 3, July-September 2025.

Abstract

Objective: This study aims to identify the determinants of health services utilization for non-communicable diseases (NCDs). Identifying key factors that influence the level of NCD health service utilization is essential to support the effective implementation of programs, to improve the performance of primary health care services, and to enhance the quality of life through early detection and control of NCD risk factors.

Material and Methods: The study employed a quantitative approach with a cross-sectional design. A total of 180 respondents were selected using a simple random sampling method. The inclusion criteria were individuals aged over 18 years who had accessed non-communicable disease (NCD) health services at primary health centers, were in a compos mentis state, and were willing to participate. Data were collected using a structured questionnaire comprising demographic variables, knowledge, and illness perception, measured using the Brief Illness Perception Questionnaire (B-IPQ).

Results: The Utilization of non-communicable disease (NCD) health services was significantly associated with sex(p=0.001), travel distance(p=0.002), knowledge (p=0.002), and illness perception (p=0.027) but not significantly associated with age (p=0.223). The most dominant factor was sex, with an odds ratio of 4.727 (95% CI: 2.033–10.992), indicating that female respondents were approximately 4.7 times more likely to utilize non-communicable disease (NCD) health services compared to males.

Conclusion: The findings of this study indicate that sex, travel distance, knowledge, and illness perception were associated with the utilization of non-communicable disease (NCD) health services. Sex was the most dominant factor for non-communicable disease (NCD) health services utilization.

Keywords: Non-Communicable Diseases, health services, health behavior, determinants

Introduction

Global attention to non-communicable diseases (NCDs) has increased in line with the rising frequency of their occurrence. Globally, NCDs account for approximately 70% of all deaths worldwide[(1)]. Nationally, about 66% of all deaths

Corresponding Author: Teuku Tahlil, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia

E-mail: ttahlil@usk.ac.id

Submission date: May 15, 2025 **Revision date:** June 30, 2025 **Published date: July 30 , 2025**

in Indonesia are caused by NCDs[2]. The 2023 Indonesian Health Survey (SKI) suggested the prevalence of hypertension among individuals aged 18 years and above, as determined by blood pressure measurements, was 30.8%. The prevalence of diabetes mellitus (DM) among individuals aged 15 years and above, based on blood glucose level assessments, was recorded at 11.7%[3].

The burden of NCDs can be reduced through effective control and prevention efforts. The Regulation of the Minister of Health of the Republic of Indonesia No. 71 of 2015 concerning the Control of Non-Communicable Diseases, Article 20 states that "the community, both individually and in groups, plays an active role in controlling NCDs through community-based health efforts (UKBM) by establishing and developing NCD health services"[4].

NCD health services are an integral part of public health efforts that emphasize active community participation throughout all stages, including planning, implementation, monitoring, and evaluation. In this context, the community plays multiple roles—not only as beneficiaries, but also as targets of change, agents of change, and key resources. NCD health services are classified as Community-Based Health Efforts (UKBM), which are organized by and for the community in accordance with their local potential, capacity, and needs[5]. The utilization of health services reflects individual health behavior aimed at the prevention and management of diseases or health disorders that may pose potential risks. A person's decision to access healthcare facilities is influenced by three main components: predisposing factors, enabling factors, and need factors[6].

One of the most widely used the oretical approaches to understanding health behavior is the Andersen Model. This model emphasizes that an individual's health service-seeking behavior is influenced by three main categories: predisposing factors, enabling factors, and need factors. These factors encompass various aspects such as knowledge, attitudes, beliefs, values, as well as demographic characteristics like age, education level, occupation, and socioeconomic status. In addition, the availability of health services and the perceived health needs of individuals or families also play a significant role in determining the utilization of health services, including in the context of NCD control[7]. Further research is needed to identify the most dominant factors influencing the utilization of NCD health services.

Material and Methods

Research design and setting

This quantitative study employed a cross-sectional design and was conducted at one of the Primary Health Centers (Puskesmas) in Aceh Besar. The rationale for selecting the research location includes the continuously rising prevalence of non-communicable diseases (NCDs), the persistently low level of community participation in health programs, and the area's diverse demographic profile. The data collection period spanned from November 5, 2024, to January 18, 2025.

Population and sample:

The study population consisted of all individuals who accessed health services in the selected Primary Health Center during 2023. A total of 180 respondents were included in this study. The Krejcie and Morgan formula with a 95% confidence level was used in the sample size determination. The inclusion criteria were individuals aged over 18 years who accessed health services at Puskesmas Aceh Besar, were fully conscious (compos mentis), had no hearing or visual impairments, and were willing to participate. Patients with impaired consciousness were excluded from the study.

Procedure of study:

Data were collected using a questionnaire consisting of variables on demographics, knowledge, and illness perception (Brief Illness Perception Questionnaire – B-IPQ). The knowledge questionnaire comprised 8 multiple-choice, with each correct answer was scored as 1, while incorrect answers were scored as 0. The total score was then accumulated, converted into a percentage, and categorized as either "good" or "poor." The Brief Illness Perception Questionnaire (B-IPQ), uses a Likert scale ranging from 1 to 10, where 1 indicates the lowest score and 10 the highest. The categorization was based on the mean score, with higher scores indicating a more negative perception of illness.

Data collection was completed with the help of two graduates with a bachelor's degree in nursing who had a good understanding of non-communicable diseases. A comprehensive preparation was provided for the enumerators through training sessions and explanations regarding the study objectives and procedure, to ensure the enumerators could apply the procedures accurately and consistently.

The data collection process began with meetings with respondents to introduce the enumerators and explain the purpose, objectives, and procedures of the study. Respondents were then provided information about the study and an informed consent form to review and sign. For individuals who agreed to participate, the researchers/enumerators arranged a mutually agreed time for data collection and provided the questionnaire, which had been previously explained in terms of its purpose and completion procedure. Completing the questionnaire took approximately 20 minutes. Respondents were given the opportunity to ask questions regarding the questionnaire. Upon completion, the researcher formally concluded the session. Data were analyzed using SPSS version 25.

Results

Demographic characteristics of the respondents are shown in Table 1 as follows:

Table 1. Demographic Characteristics

No.	Demographic Data	f	%
1.	Age		
	a. Adults (18–45 years)	27	15.0
	b. Pre-elderly (>45–59 years)	105	58.3
	c. Elderly (≥60 years)	48	26.7
2.	Sex		
	a. Male	37	20.6
	b. Female	143	79.4
3.	Travel Distance		
	a. ≤ 3 km	137	76.1
	b. > 3 km	43	23.9

Based on Table 1, the majority of respondents were in the pre-elderly age group(58.3%) and identified as female(79.4%). The highest level of education attained by the respondents was senior high school, reported by 68 individuals (37.8%). In terms of proximity to non-communicable disease (NCD) healthcare services, the majority of respondents—137 individuals (76.1%)—resided within a 3 km radius.

Respondents' illness perception, knowledge, and utilization of non-communicable disease health services are shown in Table 2 as follows:

Table 2. Illness Perception, knowledge, and utilization of non-communicable disease health services

No.	Variables	f	%
1	**Illness Perception**		
	Positive	158	87.8
	Negative	22	12.2
2	**Knowledge**		
	Good	116	64.4
	Poor	64	35.6
3	**Utilization of Non-Communicable Disease Healthcare Services**		
	Not utilizing	39	21.7
	Utilizing	141	78.3

Based on Table 2, a total of 158 respondents (87.8%) had a positive illness perception; 116 respondents (64.4%) had good knowledge; and 141 respondents (78.3%) utilized non-communicable disease healthcare services.

The Relationship between respondents' age, sex, travel distance, knowledge, and illness perception with the utilization of non-communicable disease healthcare services can be seen in Table 3 below.

Table 3. Independent Variables and Utilization of Non-Communicable Disease Healthcare Services

No	Independent Variables	Utilization of Non-Communicable Disease Healthcare Services				Total		p-value
		Not Utilizing		Utilizing				
		f	%	f	%	f	%	
1.	**Age**							
	Adults (<45 years)	9	5	18	10	27	15	0,223
	Pre-elderly (45–59 years)	19	10,6	86	47,8	105	58,3	
	Elderly (≥60 years)	11	6,1	37	20,6	48	26,7	
2.	**Sex**							
	Female	22	12,2	121	67,2	143	79,4	0,001
	Male	17	9,4	20	11,1	37	20,6	
3.	**Travel Distance**							
	≤ 3 km	22	12,2	115	63,9	137	76,1	0,002
	3 km	17	9,4	26	14,4	43	23,9	
4.	**Knowledge**							
	Good	22	12,2	115	63,9	137	76,1	0,002
	Poor	17	9,4	26	14,4	43	23,9	
5.	**Illness Perception**							
	Negative	9	5	13	7,2	22	12,2	0,027
	Positive	30	16,7	128	71,1	158	87,8	
	Total	37	46,8	42	53,2	79	100	

Based on Table 3, it can be concluded that gender (p=0.001), travel distance (p=0.002), knowledge (p=0.002), and illness perception (p=0.027) are significantly associated with the utilization of non-communicable disease healthcare services. However, age (p=0.223) is not significantly associated with the utilization of these services.

Further analysis findings using Bivariate logistic regression can be seen in Tables 4 and 5 as follows:

Table 4. Bivariate Logistic Regression Selection

No	Independent Variables	P-Value
1.	Age	0,245
2.	Gender	0,000
3.	Travel Distance	0,002
4.	Knowledge	0,001
5.	Illness Perception	0,028

Based on Table 4, the results of the bivariate selection using simple logistic regression indicate that the variables that proceeded to multivariate logistic regression modeling are gender (p=0.000), travel distance (p=0.002), and knowledge (p=0.001).

Table 5. Multiple Logistic Regression Modeling

No.	Variables	B	p	OR	95% CI
1.	Gender	1.553	0.000	4.727	2.033-10.992
2.	Travel Distance	1.245	0.003	3.474	1.519-7.949
3.	Knowledge	-1.002	0.013	0.367	0.167-0.806

Based on Table 5, it can be concluded that the determinants of gender, travel distance, and knowledge are significantly associated with the utilization of non-communicable disease healthcare services ($p < 0.05$). The most dominant determinant related to the utilization of these services is gender,

with an odds ratio (OR) of 4.727 (95% CI: 2.033-10.992). This means that female respondents are 4.7 times more likely to utilize healthcare services compared to male respondents.

Discussion

The Relationship Between Age and Utilization of Non-Communicable Disease Healthcare Services

The research findings indicate that there was no significant relationship between age and the utilization of non-communicable disease healthcare services. This result is consistent with a previous study, which showed that there was no relationship between age and the utilization of non-communicable disease healthcare services in the implementation of the non-communicable disease program[8]. Age did not show a significant effect in this study because the age groups examined, namely adults and the elderly, had a balanced proportion of respondents who were both active and inactive in utilizing the services. This suggests that both adult and elderly age groups exhibit similar variations in respondent activity levels [8].

Age is one of the main factors influencing the utilization of Posbindu PTM (Integrated Non-Communicable Disease Early Detection Post). Younger individuals tend to feel healthier and often overlook early signs of non-communicable diseases (NCDs), thus they are less likely to access Posbindu PTM services. In contrast, older individuals, particularly the elderly, are more aware of the health risks they face and are therefore more motivated to undergo regular check-ups at Posbindu NCDs to prevent or detect diseases at an early stage[9].

These results indicate that older age groups tend to utilize non-communicable disease healthcare services more than younger age groups. This difference can be attributed to the increased health awareness that comes with aging, where older individuals are more concerned about their health condition. Younger individuals, on the other hand, tend to feel healthier and often overlook early signs of non-communicable diseases, thus they are less likely to access non-communicable disease healthcare services.

The Relationship Between Gender and Utilization of Non-Communicable Disease Healthcare Services

The results of this study indicate a significant relationship between gender and the utilization of non-communicable disease (NCD) healthcare services. Several previous studies have shown that gender is a contributing factor in healthcare service utilization. It has been reported that healthcare utilization is higher among women due to greater health needs compared to men [10].

It has been reported that women possess higher health awareness than men. They are more likely to seek healthcare services when experiencing unusual symptoms. Furthermore, women's roles within the family also influence healthcare utilization patterns[11]. In many cultures, women are responsible for family health, which leads them to access health information more frequently and utilize community-based services such as NCD healthcare services [12] Hormonal and reproductive factors also play a role, as women have specific health needs that make them more accustomed to preventive health screenings[13].

Conversely, men tend to underutilize Posbindu PTM for several reasons. Masculinity-related stigma may be one of the causes. Many men perceive seeking healthcare as a sign of weakness, leading them to postpone check-ups until symptoms become more severe[14]. In addition, lower health awareness and a tendency to prioritize work over health also contribute to the lower utilization of Posbindu PTM services by men[11].

The Relationship Between Distance and Utilization of Non-Communicable Disease Healthcare Services

The hypothesis test results indicate that there is a relationship between the distance to non-communicable disease (NCD) healthcare services and the utilization of those services in the working area of Puskesmas in Aceh Besar. Physical accessibility is one of the main challenges in utilizing NCD healthcare services, especially for communities living in rural areas or regions with limited transportation infrastructure. Long travel distances and difficult geographical conditions—such as damaged roads or rough terrain—serve as significant barriers to accessing NCD healthcare services. Limited physical access can reduce individuals' motivation to undergo

routine check-ups, particularly if they lack adequate means of transportation[15].

In addition, greater distance is also associated with increased transportation costs incurred by the community. Although Non-Communicable Disease (NCD) healthcare services are essentially free, travel expenses can become an additional burden for individuals with low socioeconomic status[16]). Oldenburg et al demonstrated that the level of healthcare service utilization tends to decrease as the distance between a person's residence and the health facility increases[17].

Therefore, more effective strategies are needed to overcome distance-related barriers in the utilization of NCD healthcare services, particularly Posbindu (Integrated Health Post for NCDs). One potential approach is to increase the number of NCD service points in areas with limited access and to provide mobile Posbindu services that can reach communities in remote areas. Additionally, offering transportation subsidies or incentives for individuals who regularly attend NCD healthcare services could serve as a viable solution to enhance community participation.

The Relationship Between Knowledge and Utilization of Non-Communicable Disease Healthcare Services

The results of this study also indicate a significant relationship between knowledge and the utilization of Non-Communicable Disease (NCD) healthcare services. This finding is consistent with the study by Agung, Berawi, and Warsono, which reported a significant association between knowledge and the use of NCD healthcare services. The study showed an odds ratio (OR) of 9.141, indicating that individuals with poor knowledge are 9.141 times more likely not to utilize NCD healthcare services compared to those with good knowledge[18].

Knowledge about healthcare services is one of the key factors influencing an individual's decision to seek care. When people lack sufficient knowledge about the availability and benefits of NCD healthcare services, they are less likely to participate in related programs[19].

Low levels of knowledge may be influenced by educational attainment and type of occupation. Individuals with higher education levels tend to have a greater understanding of the importance of health, and thus are more likely to engage in health-promoting behaviors, including participation in Posbindu NCD activities. Conversely, individuals with limited knowledge often prioritize work or rest at home over attending Posbindu sessions, due to a lack of understanding about their benefits. However, when people possess adequate knowledge and recognize the importance of participating in Posbindu, they are more willing to allocate time to utilize these healthcare services[20].

The Relationship Between Illness Perception and the Utilization of Non-Communicable Disease (NCD) Health Services

The statistical test results indicated that there was no significant relationship between illness perception and the utilization of NCD health services. This suggests that while illness perception influences an individual's awareness and concern regarding their health condition, it does not necessarily have a direct impact on their decision to utilize preventive health services such as NCD health services.

This finding is consistent with the study by Marthasari et al., which found that the relationship between health-illness perception and the utilization of NCD health services was not statistically significant ($p = 0.421$). This implies that individuals' perception of their health status does not directly affect their decision to engage with NCD services[21].

However, research by Febriani et al., demonstrated that individuals with negative illness perceptions—those who feel threatened by disease—are more likely to utilize preventive health services such as Posbindu PTM. Negative perceptions of illness may increase an individual's vigilance regarding health risks and encourage more proactive preventive behaviors[22]. This supports the Illness Perception Theory by Howard Leventhal, which posits that individuals with more negative perceptions of illness are more likely to engage in health management behaviors and seek medical care[23].

Prusaczyk et al.,revealed that although individuals with negative perceptions of their health tend to be more proactive in seeking medical treatment, other factors such as accessibility of

healthcare facilities, cost, and family support also play a significant role in influencing their decision to utilize healthcare services [9].

The Most Dominant Determinant Associated with the Utilization of Non-Communicable Disease Health Services

Based on the results of the multivariate logistic regression model, the most dominant determinant associated with the utilization of Non-Communicable Disease (NCD) health services was gender. The Odds Ratio (OR) value of 4.727 (95% Confidence Interval: 2.033–10.992) indicates that female respondents were 4.7 times more likely to utilize NCD health services compared to male respondents. When compared to the variable of travel distance (>3 km), females were 6.82 times more likely to access such services.

Gender, as a predisposing factor in Andersen's Behavioral Model of Health Service Utilization, suggests that fundamental individual characteristics such as sex can influence health-seeking behavior. Women are generally more proactive in utilizing health services than men. This tendency can be attributed to several factors, including their social role in managing family health, a higher level of health awareness, and greater receptiveness to community-based health initiatives. Conversely, men are often less inclined to seek health services, perceiving health check-ups as a lower priority. In many cases, they may feel reluctant or embarrassed to participate in health programs, especially when such services are predominantly attended by women. Furthermore, masculine norms and stigma—which view seeking medical help as a sign of weakness—also act as barriers that discourage men from optimally utilizing health services[24].

Conclusion

Based on the research findings, it can be concluded that gender, knowledge, travel distance, and illness perception are significantly associated with the utilization of non-communicable disease (NCD) health services. In contrast, age was not found to be associated with the utilization of these services. Among the identified factors, gender emerged as the most dominant determinant influencing the utilization of NCD health services

Limitations of The Study: Not all respondents were available to complete the questionnaire during the implementation of the health services, requiring the researchers to conduct home visits to administer the questionnaire. Also, this study was conducted in only one sub-district; therefore, the findings may not be generalizable to other areas with different social, cultural, economic, and healthcare infrastructure characteristics.

Future Research Recommendations: Future researchers are encouraged to expand the scope of the study by including a broader geographic area and additional variables, such as socio-economic factors, support from healthcare personnel, and health behaviors. Furthermore, researchers may explore more specific community-based interventions to enhance public participation in these health programs.

Ethical Consideration: This study received ethical approval from the Research Ethics Committee of the Faculty of Nursing, Syiah Kuala University, under approval number 112016310724.All respondents provided written informed consent to participate in this study.

Conflict of Interest: All the authors declared that they have no conflicts of interest in this study.

Source of Funding: None

Acknowledgement: We extend our sincere gratitude to the Head of Darussalam Public Health Center, Aceh Besar, for the valuable support and guidance throughout the research process. We also wish to express our appreciation to the health center staff, community health volunteers, and participants for their time and effort, which contributed significantly to the successful implementation of this study and the reliability of its findings in identifying the determinants of non-communicable disease health service utilization.

References

1. Kementerian Kesehatan RI. Rencana Aksi Kegiatan Direktorat Pencegahan Dan Pengendalian Penyakit Tidak Menular Tahun 2020-2024. Jakarta Selatan: Kementerian Kesehatan RI; 2020.
2. World Health Organization (WHO). Noncommunicable Disease. 2023.

3. Survei Kesehatan Indonesia. Survei Kesehatan Indonesia (SKI) Dalam angka. 2023.
4. Kementerian Kesehatan RI. Peraturan Menteri Kesehatan RI No 71 Tahun 2015 Tentang Penanggulangan Penyakit Tidak Menular. Jakarta: Direktorat Jenderal Pencegahan dan Pengendalian Penyakit (P2P); 2015.
5. Ambarwati, Ferianto. Evaluasi Pelaksanaan Pos Pembinaan Terpadu Penyakit Tidak Menular (Posbindu PTM). J Profesi Keperawatan. 2019;6(1):30-44 http://jurnal.akperkridahusada.ac.id/index.php/jpk/article/view/61
6. Rochmah S, Purnami CT, Agushybana F. Analisis Pemanfaatan Posbindu Oleh Lansia Mellaui Pendekatan Health Belief Model. Media Publ Promosi Kesehat Indones. 2023;
7. Priyoto. Teori Sikap dan Perilaku dalam Kesehatan. Yogyakarta: Nuha Medika; 2014.
8. Agusella V, Setiaji B, Diamil A, Budiati E, Pramudho K. Faktor yang Berhubungan dengan Pemanfaatan Posyandu. Ensiklopedia J. 2024;13(1):65–75.
9. Prusaczyk A, Oberska J, Żuk P, Guzek M, Bogdan M. Behaviorism and the concepts of influencing the attitudes of patients towards health behaviors. J Educ Health Sport. 2023;13(4):108-114. https://apcz.umk.pl/JEHS/article/view/41806
10. Könsgen BI, Nunes BP, Facchini LA, Tomasi E. Health service utilization and associated factors, among students at the Federal University of Pelotas, Brazil: a cross-sectional study. Epidemiol. 2018;
11. Filkina OM, Kocherova OY, Malyshkina AI, Vorobyeva EA, Dolotova N V. Gender features of awareness and attitudes of adolescents to a healthy lifestyle. Hygiene and Sanitation. 2022;101(2):218-224 https://www.rjhas.ru/jour/article/view/2017
12. Mussida C, Patimo R. Women's Family Care Responsibilities, Employment and Health: A Tale of Two Countries. J Family and Economics Issues. 2021;42(3):489-507 https://link.springer.com/10.1007/s10834-020-09742-4
13. Tulchinsky TH, Varavikova EA, Cohen MJ. Family health and primary prevention. The New Public Health. 2023:467-549: https://linkinghub.elsevier.com/retrieve/pii/B9780128229576000077
14. Madhavan S, Bullis E, Myers R, Zhou CJ, Cai EM, Sharma A, et al. Awareness of family health history in a predominantly young adult population. Plos One. 2019;14(10):1-12 https://dx.plos.org/10.1371/journal.pone.0224283
15. Rashid S, Mahmood H, Asma Iftikhar A, Komal N, Butt Z, Mumtaz H, et al. Availability and readiness of primary healthcare facilities for the management of non-communicable diseases in different districts of Punjab, Pakistan. Frontiers in Public Health. 2023:1-7 https://www.frontiersin.org/articles/10.3389/ fpubh.2023.1037946/full
16. Untad V, Napirah MR, Pongsapan N. Factors Related to the Utilization of the Integrated Development Posts of Non-Communicable Diseases (POSBINDU PTM) in Bulili Health Centre Area. Open Access Maced J Med Sci 2022;10(E):27–32.: https://oamjms.eu/index.php/mjms/article/view/6936
17. Oldenburg CE, Sié A, Ouattara M, Bountogo M, Boudo V, Kouanda I, et al. Distance to primary care facilities and healthcare utilization for preschool children in rural northwestern Burkina Faso: results from a surveillance cohort. BMC Health Service Research. 2021;21(1):212
18. Agung LYK, Berawi KN, Warsono. Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal. 2025;15(1):199-206. https://journal2.stikeskendal.ac.id/index.php/PSKM/article/view/1979/1260
19. Anggraeni S, Fauziah E. Determinan Pemanfaatan Posbindu PTM di Desa Uwie Wilayah Kerja Puskesmas Muara Uya Kabupaten Tabalong. J Publ Kesehat Masy Indones. 2020;10(2):138–44.
20. Fatimah RN, Wulandari DA, Damayanti S. Determinan Pemanfaatan Posbindu Penyakit Tidak Menular oleh Masyarakat di RW 36 Padukuhan Ngabean Kulon Sinduharjo Ngaglik Sleman. J Kesehat Komunitas. 2023;9(3):512–20.
21. Marthasari S, Aryastuti N, Samino S. Analisis pemanfaatan pelayanan pos pembinaan terpadu penyakit tidak menular dengan pendekatan teori Andersen dan Newman. Holistik J Kesehat. 2023;16(8):752–66.
22. Febriani CA, Perdana AA, Sari TD. Faktor-Faktor yang Berhubungan dengan Pemanfaatan Pos Pembinaan Terpadu Penyakit Tidak Menular. J Penelit Perawat Prof. 2021;3(1):165–78.
23. McInerney GE, Muellers K, O'Conor R, Wolf MS, Leventhal H, Wisnivesky JP, et al. Concordance of patients' beliefs about chronic obstructive pulmonary disease, their comorbidities, and their medications. Patient Education and Counseling. 2020;103(4):677-681
24. Patel R, Chauhan S. Gender differential in health care utilisation in India. Clin Epidemiol Glob Health. 2020;8(2):526-530. https://linkinghub.elsevier.com/retrieve/pii/S2213398419304154