

PERCEIVED HEALTH STATUS AND HEALTHCARE UTILIZATION AMONG THE TINGGUAN INDIGENOUS POPULATION IN ABRA, PHILIPPINES

Triffany Prudence S. Martin, MAN¹ and Francis Don L. Nero, PhD²

¹Baguio General Hospital and Medical Center, Baguio City, Philippines

²University of Northern Philippines, Vigan City, Philippines

francisdon.nero@unp.edu.ph

KEYWORDS

indigenous
health

healthcare
access

health
disparities

Tingguan

ABSTRACT:

Introduction: Indigenous Peoples (IPs) experience unique and persistent health disparities, with limited access to healthcare posing significant challenges. The Tingguian IPs in Abra, Philippines, represent a vulnerable group whose healthcare barriers include geographic isolation, financial constraints, and cultural exclusion.

Objectives: This study investigates Tingguian health perceptions, common health issues, and healthcare utilization patterns.

Methods: Using a descriptive-correlational approach, data from 318 Tingguian adults were analyzed to assess socio-demographic profiles, health status, healthcare access, and utilization.

Results: Most participants rated their health as “Good,” with respiratory illnesses prevalent. Access issues were linked to income and distance from facilities, and factors like age and income significantly influenced health perceptions and service use.

Conclusions: Findings underscore the need for culturally appropriate, accessible healthcare initiatives that address the structural and socio-economic factors limiting IP healthcare access. Tailored interventions could improve health outcomes and equity.

1. Introduction

Indigenous Peoples (IPs) experience complicated and persistent health inequities, which are exacerbated by limited access to services amidst increasing technological and industrial growth. Globally, IPs have greater rates of disability, lower life expectancy, and major healthcare access restrictions [1]. However, data adequately reflecting these inequities is still limited, particularly in places such as the Philippines, where health records are often focused on in-patient consults, leaving out important outpatient data required for a thorough knowledge of IP health.

The Tingguian, an IP group in Abra, Philippines, account for 40% of the province's population and 70% of its geographical area [2]. Tingguian communities frequently face significant barriers to healthcare access due to geographical isolation and socio-cultural exclusion [3]. Despite their rich cultural past, people face difficulty in recognizing and preserving their rights and health practices [4]. This scenario is exacerbated by pharmaceutical shortage, which affects both developed and developing

countries, limiting medicine availability and accessibility [5]. Although tribal and ethnic communities rely heavily on indigenous medical systems [6], self-medication is a popular option among IPs, frequently without professional assistance. This method, while required in some situations, brings hazards such as inaccurate dose and inappropriate use, particularly with antimicrobials, which contribute to increasing drug resistance.

Everyone acknowledges that tribes have deplorable health conditions. The inaccessibility and remoteness of the areas exacerbate the already complex state of health [7]. The discrepancy across social groups remains rather considerable. Low health status is linked to poverty, being a woman, living in a rural location, belonging to a tribal ethnic group, being a scheduled caste (SC), and belonging to specific minority groups [8].

Addressing these difficulties necessitates a thorough understanding of IPs' health-seeking habits, beliefs, and healthcare consumption patterns. Effective solutions for increasing IPs' healthcare access and limiting self-medication risks are critical for promoting overall health equity. This study intends to contribute to a more nuanced understanding of Tingguian health behaviors and service consumption, informing culturally sensitive healthcare initiatives. Finally, enhancing healthcare access and prescription habits may minimize healthcare disparities and associated dangers, such as antimicrobial resistance, benefiting not only intellectual property holders but also society as a whole. This project will investigate Tingguian health views, healthcare utilization, and access hurdles, providing insights into how healthcare services might be better incorporated into their lives while promoting cultural respect and health equity.

2. Objectives

The study aimed to explore the health status perceptions and healthcare service utilization among the Tingguian Indigenous Peoples of Abra, Philippines. Specific objectives included profiling respondents' socio-demographic and health-related characteristics, such as age, gender, civil status, education, occupation, family structure, family income, ethnic sub-tribe, presence of chronic disease, and recent hospitalizations. Additionally, it examined respondents' perceptions of their current and past-year health, identified prevalent illnesses and their causes, and analyzed health service usage, including sources, facility preferences, accessibility, travel time, onset-to-treatment delays, medication costs, and diagnostic fees. Lastly, the study aimed to assess statistical relationships between perceived health status, socio-demographic and health characteristics, and health service utilization parameters.

3. Methods

The methodology adopted in this study was meticulously designed and implemented to enable a rigorous and systematic investigation of the research objectives.

Research Design. The study examined the health beliefs, health-seeking behaviors, healthcare utilization, and profiles of the Tingguian people in Abra, Philippines, using a descriptive-correlational approach. It investigated the connections between independent variables (like socio-demographic and health-related characteristics) and dependent variables (like healthcare utilization and health perception).

Sampling. With an emphasis on adults who were literate in *Iloko* and gave their informed consent, the target population consisted of 318 Indigenous Peoples from particular communities in Abra, Philippines. Purposive sampling was used to choose the participants, and G-Power analysis was used to determine the sample size.

Data Collection. A structured questionnaire that was modified from Dawood et al. (2017) was used to collect the data. It has three sections that address health attitudes, healthcare use patterns, and socio-demographic and health-related characteristics. The study was organized with local authorities and adhered to health regulations, including mask-wearing and cleaning, to ensure safety.

Ethical Consideration. Obtaining approval from the National Commission on Indigenous Peoples (NCIP) and the University of Northern Philippines' Ethics Review Committee (UNP-ERC) was one ethical consideration. Conflict of interest, privacy, informed consent, and respect for fragility were among the observed ethical norms. Coded identities, safe data storage, and post-study raw data disposal all served to protect privacy. The goal, hazards, and advantages of the study were explained to the participants, who willingly took part with the option to withdraw at any time without incurring any fees.

Care was taken to handle language issues, clarify technical jargon, and ensure respondents felt comfortable because the study included a vulnerable group. There were no monetary rewards provided. However, by raising the community's understanding of health-use practices and encouraging health-seeking behavior, the results may help responders.

Data Analysis. The data were analyzed using Chi-Square tests to evaluate correlations between components, mean for health perception levels, and frequency and percentage to profile socio-demographic and health-related aspects. For the Tingguian community, this method offers culturally aware insights to guide healthcare planning and action.

4. Results

The analysis of the 318 respondents revealed significant socio-demographic trends and health-related insights, highlighting the community's health status and use of healthcare services.

- 4.1. Key socio-demographic trends emerged from the analysis of the 318 respondents: the majority of respondents (54.09%) were female, and the largest age group (21.07%) was 30–39 years old. The majority had at least some college education, and nearly half (48.74%) were unmarried. The two largest occupational groupings were students (23.90%) and independent contractors (22.33%), and 83.33% of them were part of nuclear families. The majority of respondents (50.31%) identified as belonging to the Inlaud sub-tribe, while the majority (50.31%) made less than PHP 5,000 per month. In terms of health, 96.23% had not recently been admitted to the hospital, and 92.14% had no chronic illnesses.
- 4.2. The respondents gave their health status a "Good" rating for both the past and present (mean 3.78 and 3.72, respectively). 30.19% of respondents assessed their current health status as "Excellent," 29.56% as "Better," and only 0.94% as "Poor." 39.62% of respondents said their health was "Good" over the previous year, while just 0.94% said their health was "Poor."

Table 1
 Level of Perception of the Respondents on their Health Status

	Mean	DR
Current Health Status	3.78	Good
Health Status for the Past 1 Year	3.72	Good
Current Health Status	<i>f</i>	%
Excellent	96	30.19
Better	94	29.56
Good	93	29.25
Fair	32	10.06
Poor	3	.94
Total	318	100.00
Health Status for the Past 1 Year		
Excellent	91	28.62
Better	76	23.90
Good	126	39.62
Fair	22	6.92
Poor	3	0.94
Total	318	100.00

4.3.Cough (56.92%) and colds (53.46%) were the most prevalent ailments, and they were frequently ascribed to weather variations (63.84%). Municipal Health Offices provided the majority of health services, while location (22.95%) and trust in medical professionals (42.5%) were factors in facility selection. The majority of respondents (39.94%) said it took less than 15 minutes to go to care, and public transportation was the most popular way to get to facilities (50%).

Table 2
 Utilization of the Respondents of Health Services

Indicators	<i>f</i>	%
Source of Health Services		
Private Physician	30	9.43
Pharmacy	18	5.66
Municipal Health Office	203	63.84
Private Hospital	17	5.35
Government Hospital	43	13.52
Self-Medication	6	1.89
Traditional Medicine	1	0.31
Total	318	100.00
Reason for Choosing particular		
I trust the health provider of the	135	42.45
It's close to my home	73	22.95
It's affordable	64	20.13
Good quality of treatment or	38	11.95
Recommended by a friend or	8	2.52
Total	318	100.00
Ways of Reaching Nearest Health		
Walking	73	22.96
Public Utility Transport Services	159	50.00
Private Vehicle	86	27.04
Total	318	100.00
Time Spent to Reach Nearest Health		
Less than 15 minutes	127	39.94
15-30 minutes	97	30.50

Indicators	<i>f</i>	%
31-60 minutes	48	15.09
More than 1 hour	46	14.47
Total	318	100.00
Time Gap Between Visit to Health		
On the same day	90	28.30
1 day	71	22.33
2 days	74	23.27
3 days	47	14.78
More than 3 days	36	11.32
Total	318	100.00
Amount of Money Spent for		
P 100 and below	68	21.38
P 101 – P500	93	29.25
P 501 – P1,000	80	25.16
P 1,001 and above	45	14.15
Does not purchase any	32	10.06
Total	318	100.00
Amount Spent for Availing		
P 100 and below	25	7.86
P 101 – P500	38	11.95
P 501 – P1,000	60	18.87
P 1,001 and above	85	26.73
Does not avail laboratory or	110	34.59
Total	318	100.00

4.4. Age was significantly correlated with both past ($r=131.442$) and current ($r=140.905$) health status; there were also substantial associations between health status and civil status, occupation, and family income. People who had recently been hospitalized or had chronic illnesses used health services more frequently, preferred easily accessible municipal facilities and reported better health results.

Table 3
Relationship between the Level of Perception of the Respondents on their Health Status and Socio-demographic and Health-related Factors

Variables	Current Health Status		Past Health Status	
Socio-Demographic Factors	X ²	Significance (p)	X ²	Significance (p)
Age	140.905*	$p<.05$	131.442*	$p<.05$
Gender	1.451	$p>.05$	3.986	$p>.05$
Civil Status	46.145*	$p<.05$	40.340*	$p<.05$
Educational Attainment	34.115*	$p<.05$	39.761*	$p<.05$
Occupation	46.227*	$p<.05$	44.082*	$p<.05$
Family Structure	17.072	$p>.05$	19.377	$p>.05$
Family Monthly Income	35.386*	$p<.05$	46.562*	$p<.05$
Ethnic Sub-Tribe	44.462	$p>.05$	55.235	$p>.05$
Health-Related Factors				
Presence of chronic diseases	41.856*	$p<.05$	42.615*	$p<.05$
Hospitalized for the past six months	78.669*	$p<.05$	80.124*	$p<.05$

*. Significant at the 0.05 level.

4.5. The study found statistically significant associations between several healthcare utilization characteristics and respondents' health status. Significant relationships were found between health care sources and current ($r=42.690$) and previous health status ($r=47.662$). Similarly, time spent traveling to healthcare facilities ($r=23.373$), the duration between symptom onset and facility visits (current health $r=33.303$; past health $r=38.454$), and prescription expenditures (current health $r=39.246$; past health $r=46.853$) were also strongly related with health outcomes. These findings emphasize the importance of timely access to affordable healthcare services in maintaining and enhancing community health outcomes.

Table 4
Relationship between the Extent of Perception on the Health Status of the Respondents and their Extent of Utilization of the Health Services

Extent of Utilization of the Health Services	Current health Status		Past Health Status	
	X ²	Significance (p)	X ²	Significance (p)
Source of Health Services	42.690*	$p<.05$	47.662*	$p<.05$
Reason for Choosing particular Health Facility	16.691	$p>.05$	22.024	$p>.05$
Ways of Reaching Nearest Health Facility	14.985	$p>.05$	18.687	$p>.05$
Time Spent to Reach Nearest Health Facility	23.373*	$p<.05$	19.932	$p>.05$
Time Gap Between Visit to Health Facility and Onset of Symptoms	33.303*	$p<.05$	38.454*	$p<.05$
Amount of Money Spent for Medications	39.246*	$p<.05$	46.853*	$p<.05$
Amount Spent for Availing Laboratory and Diagnostic Examinations	25.159	$p<.05$	28.481*	$p<.05$

*. Significant at the 0.05 level.

5. Discussion

The results of this study highlight important trends in the Tingguian indigenous people in Abra's health status, health-seeking behavior, and healthcare service consumption. According to the demographic profile, younger people with a higher level of education make up the majority, and many of them have low to moderate salaries. As evidenced by the respondents' health condition and health service utilization, these socio-demographic characteristics significantly impact health beliefs and behaviors.

The study demonstrates how socio-demographic characteristics, including age, income, occupation, and education level, significantly impact health and healthcare-seeking behavior. In keeping with findings from earlier research that demonstrate age-related reductions in health, age was highly connected with both past and current health status, indicating that older people may have worse health outcomes. Accessible health services, community capacity building, enhanced social support networks, and culturally appropriate healthcare are all necessary for Indigenous older persons with numerous chronic diseases and their caregivers [9].

Additionally, a significant correlation was found between occupation, civil status, and health status. This finding is in line with research showing that marriage has both marriage protection and marriage selection effects, improving the health of unemployed women but not employed women, and that employment is good for mental health, especially depression and general mental health [10] [11]. Because they affect access to resources including social support, healthcare networks, and financial stability, these socio-demographic traits are significant antecedents of healthcare-seeking behavior and the kind of care people receive.

Socio-demographic characteristics influence an individual's use of healthcare services and behavior when seeking healthcare. Higher education levels are linked to improved health literacy, which helps to explain the correlation between education and the use of primary care services outside of regular business hours by chronically ill people [12]. Educational attainment is a powerful predictor of health literacy. Higher educational attainment was associated with improved health status in this study, indicating that education contributes to better health outcomes by raising health awareness and facilitating access to quality healthcare services.

Furthermore, a significant antecedent in deciding access to healthcare is household income. According to the socio-economic determinants of health theory, respondents who reported better health status were more likely to have greater family incomes. Because income inequality widens the gap between social classes or status differences, studies have repeatedly demonstrated that income distribution is related to health because it assesses social class differences [13]. Given that a sizable percentage of study participants made less than PHP 5,000 per month, this underscores the necessity for financial aid and subsidized healthcare services and highlights the vulnerability of the population.

These health-seeking habits and perceptions have serious repercussions. People who have long-term health conditions are more likely to use healthcare services, according to the considerable correlation between chronic diseases and health status. This research lends credence to the idea that people with chronic illnesses are more aware of their health and are more likely to seek prompt medical care, ultimately leading to improved long-term health outcomes.

Additionally, the study shows a strong correlation between health status and hospitalizations during the previous 12 months, suggesting that recently hospitalized respondents were more driven to preserve or enhance their health. This is in line with studies that indicate improved primary care coordination and patient-physician communication are linked to a higher likelihood of seeking treatment for minor and serious issues, but are only marginally linked to a higher use of general practitioners [14].

Interestingly, the study also found that the time spent to reach healthcare facilities and the method of transportation significantly affected health outcomes. This highlights the importance of infrastructure in facilitating access to healthcare, as those who could easily reach facilities in under 15 minutes reported better health outcomes. This suggests that improving transportation and healthcare accessibility is essential for ensuring timely care, especially for marginalized populations such as Indigenous communities.

Curiously, the study also discovered that the mode of transportation and the amount of time it took to get to medical facilities impacted health outcomes. Those who could readily get to facilities in less than 15 minutes reported improved health outcomes, highlighting the significance of infrastructure in easing access to healthcare. This implies that enhancing access to healthcare and transportation is crucial to guaranteeing prompt treatment, particularly for underserved groups like indigenous tribes.

Another significant factor influencing health outcomes was the interval between the onset of symptoms and seeking medical attention. Respondents who sought care as soon as possible reported improved health status, whereas those who delayed seeking care—often because of lack of finances or distance—had worse outcomes. This result is consistent with the study, which concluded that continuous reform is necessary to address healthcare disparities in rural and urban areas to enhance service delivery, attract and retain medical professionals, expand access to comprehensive health insurance, and involve rural residents in health promotion [15].

The study found strong links between healthcare utilization variables and health outcomes. The source of healthcare significantly impacted both current and past health status, indicating that accessible and trustworthy healthcare facilities improve community health. Different factors influence delay in seeking medical care for a symptom, with pain and specific symptoms leading to shorter delays [16]. The time spent getting to healthcare facilities and the time between symptom onset and treatment highlight the necessity of receiving prompt care, as delays can harm health.

Furthermore, expenditures on pharmaceuticals and diagnostic services reveal financial hurdles that undermine treatment adherence, particularly among underprivileged groups, perpetuating health disparities. Decreasing financial barriers across socio-economic groups can significantly reduce socio-economic health disparities [17].

These findings highlight the need for policies that promote accessible and affordable healthcare. Although the complexity of the healthcare system, rising prices, and the need for innovative solutions all make it difficult to provide affordable healthcare [18], improving mobility, lowering costs, and introducing community-based health programs can help to break down barriers and enhance health outcomes.

Limited access, financial restraints, and delayed care highlight fundamental injustices in healthcare systems. Addressing these concerns necessitates prioritizing both infrastructure development and socio-economic initiatives. The existing literature has pointed out that indigenous groups are not only poorer than the rest of the population, but their situation is also worsening. Given the increasing vulnerability of IPs to illness, it is of program and policy relevance to better understand Indigenous peoples' health-seeking behavior and access to healthcare services to help them protect themselves and have healthy lives [19].

With implications for public health initiatives meant to enhance healthcare outcomes and access for Indigenous groups, this study offers insightful information about the health practices of the Tingguian community in Abra. It draws attention to the intricate relationships between socio-demographic characteristics, health, and healthcare use, highlighting the necessity of focused policies that address educational disparities, financial limitations, and physical obstacles to healthcare access. Providing culturally competent care implies that care is developed and implemented in a manner that is attentive to the needs of Individuals, families, and groups from various cultural communities within society [20]. Future studies should further investigate these dynamics to create specialized approaches for improving health outcomes in indigenous rural communities.

6. Conclusions and Recommendations

This study focuses on the Tingguian indigenous population in Abra, Philippines, and shows that sociodemographic characteristics such as age, education, income, and employment substantially impact health outcomes. Younger, more educated people had better health outcomes, whereas low-income groups experienced significant challenges compounded by structural concerns such as infrastructure shortcomings and financial limitations. The findings underline the importance of increasing health knowledge, lowering economic barriers, and improving healthcare infrastructure to address imbalances. Culturally sensitive public health policies and specialized community-based programs are critical for addressing the Tingguian people's specific needs, which align with global recommendations for institutional reforms to enhance results for marginalized communities.

Several approaches are proposed to alleviate healthcare inequities and promote equitable and culturally acceptable care for indigenous peoples. Financial aid schemes should be developed to lower treatment costs and delays, increasing access for low-income people. Rural healthcare infrastructure and transportation investments are critical for timely and equitable service delivery. Culturally appropriate health education initiatives should be established to improve health literacy and chronic illness management in indigenous populations. Expanding community-based programs involving local leaders and indigenous professionals can build trust and blend traditional and conventional healthcare techniques effectively. Furthermore, healthcare providers should be trained in cultural competence to ensure their services are respectful and consistent with indigenous cultural values and traditions.

References

1. United Nations. (2014) The health of Indigenous Peoples. Thematic paper towards the preparation of the 2014 World Conference on Indigenous Peoples. Accessed in <https://www.un.org/en/ga/69/meetings/indigenous/pdf/IASG%20Thematic%20Paper%20-%20Health%20-%20rev1.pdf>

2. Weygan, P. L., & Belen, Y. (Ed.). (2009). *Cordillera rituals as a way of life*. Retrieved from <https://philouise.wordpress.com/2009/08/25/rituals-of-thetingguians-of-abra-from-the-philippines/>
3. Department of Health, National Commission on Indigenous Peoples, & Department of the Interior and Local Government. (2013). *Joint Memorandum Circular No. 2013-01: Guidelines on the implementation of health programs and services for Indigenous Peoples (IPs)*. Retrieved from <https://ncip.gov.ph/wp-content/uploads/2020/09/DOH-NCIP-DILG-JMC-2013-01-s-2013.pdf>
4. United Nations Department of Economic and Social Affairs. (n.d.). Indigenous Peoples. Retrieved from <https://www.un.org/development/desa/indigenouspeoples/about-us.html>
5. Shukar S, Zahoor F, Hayat K, Saeed A, Gillani AH, Omer S, Hu S, Babar ZU, Fang Y, Yang C. Drug Shortage: Causes, Impact, and Mitigation Strategies. *Front Pharmacol*. 2021 Jul 9;12:693426. doi: 10.3389/fphar.2021.693426. PMID: 34305603; PMCID: PMC8299364.
6. Kaphungkui, N. K., Nasrin, T., Khan, M. M., Bharali, S., & Keishing, S. (2024). A Review of the Indigenous Medicinal Plants Used by Scheduled Tribe Communities of North-East India. *South Eastern European Journal of Public Health*, 1100–1116. <https://doi.org/10.70135/seejph.vi.1760>
7. Maurya, D. S., & Pandey, S. K. (2024). Public Health Policy Management Perspective in Tribal Peoples. *South Eastern European Journal of Public Health*, 78–83. <https://doi.org/10.70135/seejph.vi.898>
8. Diwakar, D., & Pandey, S. K. (2024). Global Health Management: Addressing Health Disparities And Inequalities. *South Eastern European Journal of Public Health*, 246–250. <https://doi.org/10.70135/seejph.vi.925>
9. Webkamigad, S., Rowe, R., Peltier, S., Chow, A., McGilton, K., & Walker, J. (2020). Identifying and understanding the health and social care needs of Indigenous older adults with multiple chronic conditions and their caregivers: a scoping review. *BMC Geriatrics*, 20. <https://doi.org/10.1186/s12877-020-01552-5>.
10. Waldron, I., Hughes, M., & Brooks, T. (1996). Marriage protection and marriage selection--prospective evidence for reciprocal effects of marital status and health.. *Social science & medicine*, 43 1, 113-23 . [https://doi.org/10.1016/0277-9536\(95\)00347-9](https://doi.org/10.1016/0277-9536(95)00347-9).
11. Noordt, M., IJzelenberg, H., Droomers, M., & Proper, K. (2014). Health effects of employment: a systematic review of prospective studies. *Occupational and Environmental Medicine*, 71, 730 - 736. <https://doi.org/10.1136/oemed-2013-101891>.
12. Jansen, T., Rademakers, J., Waverijn, G., Verheij, R., Osborne, R., & Heijmans, M. (2018). The role of health literacy in explaining the association between educational attainment and the use of out-of-hours primary care services in chronically ill people: a survey study. *BMC Health Services Research*, 18. <https://doi.org/10.1186/s12913-018-3197-4>.
13. Lago, S., Cantarero, D., Rivera, B., Pascual, M., Blázquez-Fernández, C., Casal, B., & Reyes, F. (2017). Socio-economic status, health inequalities and non-communicable diseases: a systematic

- review. *Zeitschrift Fur Gesundheitswissenschaften*, 26, 1 - 14. <https://doi.org/10.1007/s10389-017-0850-z>.
14. Loenen, T., Berg, M., Faber, M., & Westert, G. (2015). Propensity to seek healthcare in different healthcare systems: analysis of patient data in 34 countries. *BMC Health Services Research*, 15. <https://doi.org/10.1186/s12913-015-1119-2>.
 15. Douthit, N., Kiv, S., Dwolatzky, T., & Biswas, S. (2015). Exposing some important barriers to health care access in the rural USA.. *Public health*, 129 6, 611-20 . <https://doi.org/10.1016/j.puhe.2015.04.001>.
 16. Safer, M., Tharps, Q., Jackson, T., & Levkenthal, H. (1979). Determinants of Three Stages of Delay in Seeking Care at a Medical Clinic. *Medical Care*, 17, 11–29. <https://doi.org/10.1097/00005650-197901000-00002>.
 17. Andrulis, D. (1998). Access to Care Is the Centerpiece in the Elimination of Socio-economic Disparities in Health. *Annals of Internal Medicine*, 129, 412-416. <https://doi.org/10.7326/0003-4819-129-5-199809010-00012>.
 18. Mokhtari, M. (2016). Affordable Health Care. *Journal of Family and Economic Issues*, 37, 135-139. <https://doi.org/10.1007/S10834-016-9494-3>.
 19. Queddeng, M., Obara, C. D. N., & Nisperos, E. C. (n.d.). *Health Seeking Behaviors of the Indigenous Peoples of Ilocos*. Lambert Academic Publishing. <https://drive.google.com/file/d/1XdrGtObjpGSxrDRfM6BtVGWCnXaH-Z7p/view>
 20. Nero, F. D. L. (Year). The concept of nursing in the Philippines from the perspective of nurses in Region I. *Philippine Journal of Nursing*, 90(1), 8–17. Retrieved from <https://drive.google.com/file/d/1JDN5gpVgUif2TFiSI7iMRwVCH8nfdBjW/view>