



## Nurses' preparedness in responding to patients with suspected sexually transmitted infections in the rural health unit



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### ABSTRACT

The objective of this study was to assess the level of preparedness of rural health unit nurses in responding to patients with suspected sexually transmitted infections (STIs) in Lanao Del Sur Province, Philippines. A total of 147 nurses participated in the study from 39 rural health unit facilities using Cochran formula. The study used a self-administered questionnaire (SAQ) adapted from the Philippines' Department of Health (DOH) Manual for Training in Care and Prevention of STIs. The study revealed that the rural health unit (RHU) health care facilities and services, supplies and equipment, and training and seminars for STIs program were inadequate as perceived by rural health unit nurses. Furthermore, the result showed that the rural health unit (RHU) nurse respondents perceived themselves to be very prepared ( $\bar{x}=21.30$ ,  $SD\pm 2.36$ ) in responding to patients with suspected STIs. Specifically, rural health nurses were very prepared in terms of attitude and behavior ( $\bar{x}=35.9$ ,  $SD\pm 3.61$ ), communication ( $\bar{x}=18.8$ ,  $SD\pm 1.81$ ), health assessment ( $\bar{x}=18.6$ ,  $SD\pm 2.11$ ), prevention of transmission ( $\bar{x}=18.7$ ,  $SD\pm 1.95$ ), contact tracing ( $\bar{x}=17.2$ ,  $SD\pm 2.47$ ), and confidentiality ( $\bar{x}=18.6$ ,  $SD\pm 2.22$ ). The study revealed a significant relationship between demographic profile and the perceived level of preparedness. The study concluded that rural health nurses are very prepared in responding to sexually transmitted infections cases.

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### 1. Introduction

Sexually transmitted infection (STI) is a disease acquired through unprotected sexual contact with an infected person (Hinkle and Cheever, 2018). The WHO (2016) cited that more than 1 million STIs are acquired every day worldwide. Each year, there are estimated 357 million new infections with 1 of 4 the STIs: chlamydia, gonorrhea, syphilis and trichomoniasis (WHO, 2016) and these are caused by bacteria, viruses or parasites. Such alarming increase in the cases of STI can pose a health threat to the public, and that rural health unit nurses must be

more aware in responding to this problem as they are the frontlines to referral in the primary health unit. STI occur worldwide, but it is more commonly prevalent in less industrialized countries like the Philippines (IAMAT, 2016). Although specific cases have not been recorded for some reasons which cause major health concern to the general public. The increasing number of STIs and HIV/AIDS in the country is alarming. Hence, in this context, nurses in the rural health unit need preparation to respond to address the problem. The lack of or inadequate resources available affect nurses' ability to properly care for patients with STIs in the community. Indeed, people who are affected by the disease are seeking screening and treatment for STIs and face numerous problems. These include limited resources, stigmatization, poor quality of STI services, unable to provide proper screening for asymptomatic infections, lacking trained personnel, inadequate supplies, poor access to adequate health services (WHO, 2016). Such problems bring a unique set of

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challenges for nurses, physicians, and public health officials (Hinkle and Cheever, 2018). In this connection, nurses must provide health education, physical care, and psychological support for the person with STIs (Ignatavicius and Workman, 2010).

While there is a dearth in research in STI in nursing practice (Bungay et al., 2017), assessing the rural health unit nurses' preparedness in responding to patients with suspected STIs is timely and relevant. It further aims to determine the demographic profile of the respondents; identify the factors influencing rural health unit nurses' level of preparedness; determine the perceived level of preparedness of rural health unit nurses in response to patients suspected with STIs. Also, to determine the presence of a significant relationship between demographic profile and the perceived level of preparedness of rural health unit nurses in response to patients suspected with STIs. Lastly, the study aims to determine the presence of a significant relationship between the factors influencing nurses' preparedness and the perceived level of preparedness of rural health unit nurses in response to patients suspected with STIs.

## 2. Methods

### 2.1. Study design

This study utilized descriptive-correlational study. Inferential method was used to assess the existing relationships between the demographic profiles of the respondents, factors influencing nurses' preparedness (facilities and services, supplies and equipment, and training and seminars attended), and nurses' perceived level of preparedness (attitude and behavior, communication, health assessment, prevention of transmission, contact tracing, and confidentiality).

### 2.2. Setting and sample

The study was conducted at 39 rural health unit (RHU) facilities in Lanao Del Sur province in the Philippines which is within the supervision of the Integrated Provincial Health Office. The Integrated Provincial Health Office is the leading health government agency in the province and is mandated for designing, planning, implementing and coordinating policies and programs in the field of health involving STIs programs.

Respondents of this study were the 147 rural health unit (RHU) nurses working in the 39 rural health unit facilities in the province of Lanao Del Sur, Philippines. The Cochran formula was employed to compute the sample size required in this study statistically. Stratified random sampling was utilized to ensure that each district will be proportionately represented. The researchers also utilized purposive sampling using inclusion and exclusion criteria.

Inclusion criteria include: currently assigned in one of the 39 rural health units (RHU) in Lanao Del

Sur Province for at least six months; nurse must have an experience handling patients diagnosed or suspected of STIs; and must be currently employed as staff nurse with any of the following job positions: Public Health Nurses (PHNs), Nurses Deployment Program (NDP) and Universal Health Care Nurses (UHCNs) in the said rural health unit facilities.

### 2.3. Ethical consideration

Research ethics was primarily observed and maintained throughout conducting the study. Ethical approval was obtained from the Ethical Committee of Mindanao State University- College of Health Sciences (reference code number of 03-2018).

The study adopted the standard WHO informed consent for research study to ensure that respondents: A) voluntarily participated in the study; B) informed about the rights, benefits and possible risks involved in participating in the study, and C) explained their rights to withdraw at any time without giving any valid reasons.

### 2.4 Measurement/instrument

The study made use of a self-administered questionnaire (SAQ) adapted from the Philippines' Department of Health (DOH) Manual for Training in Care and Prevention of STIs as a reference guide. The said survey tool underwent a series of content validity and construct validity by a group of experts in nursing profession using Calmorin's Validity Testing Process. Pilot testing to 30 rural health unit nurses was also conducted before the actual gathering of data. The instrument tool underwent tool reliability and internal consistency with a Cronbach alpha score of 0.85.

The said self-administered questionnaire (SAQ) is divided into three parts. The first part of the instrument dealt with the demographic profile of the respondents in terms of age, sex, religion, civil status, highest educational attainment, the area of assignment, number of assigned villages, employment status, and years of service as rural health nurses. For the second part, it contained questions about the identified factors influencing nurses' preparedness in terms of rural health unit facilities and services, supplies and equipment, and training and seminars attended by the respondents. The last part of the questionnaire comprised of questions about the perceived level of preparedness of rural health unit nurses in response to patients suspected with STIs on six domains in terms of: attitude and behavior, communication, health assessment, prevention of transmission, contact tracing and confidentiality.

### 2.5. Data collection procedure

Letter of permission to conduct a study was secured from the nurse supervisors or physician-in-charge of 39 rural health unit facilities. Afterward,

the researchers discussed with the respondents the purpose, objectives and its procedure. Then, a self-administered questionnaire (SAQ) were distributed to the rural health unit staff nurse respondents from January to March 2018. These data are then organized, consolidated, tabulated and statistically treated.

## 2.6. Data analysis

The study utilized the IBM Statistical Package for Social Science (SPSS) software package Version 23 to perform the statistical computation of data. Descriptive statistics like frequency, percentage, mean, and standard deviation were applied to report the participant's demographic profiles and perceived level of preparedness in response to patients suspected with Pearson product moment correlation coefficient was used to test the correlation between the respondent's demographic profile and the nurse's perceived level of preparedness. Whereas, Spearman Rho Correlation ( $r$ ) was utilized to test the significant relationship between the factors influencing nurse preparedness and perceived level of preparedness in response to patients suspected with STIs.

## 3. Results

### 3.1. Demographic profile of rural health unit nurse respondents

Based on the data descriptive statistical analysis performed, with a total of 147 respondents, it was found out that the rural health unit nurse respondents' age ranges between 26 to 30 years old which accounts for 66.0%. An overwhelming majority of the respondents were female (88.4%), and most of the rural health unit nurse respondents were single (72.7%). Almost all of the respondents were Muslims (95.2%). The majority of the rural health unit nurses' highest educational attainment was Bachelor of Science in Nursing degree (87.1%). Most of the respondents were handling 1-2 village(s) as their catchment areas (47.6%). Almost all of the rural health unit nurses were on contractual status (97.3%) while the majority said that they have been in the service for more than 1 to 3 years (72.1%). Demographic profile of rural health unit nurse respondents was shown in [Table 1](#).

**Table 1:** Demographic profile of rural health unit nurse respondents

Variables		Frequency	Percentage
Age	26-30 years old	97	66.0%
Gender	Female	130	88.4%
Civil Status	Single	107	72.7%
Religion	Muslim	140	95.2%
Education	College Graduate	128	87.1%
Area of Assignment	Malabayabao District	58	39.5%
Number of Village Assignment	1-2 village(s)	70	47.6%
Employment Status	Contractual	143	97.3%
Years in Service	1 to 3 years	106	72.1%

### 3.2. Perceived level of preparedness in responding to patients with suspected STIs

In general, the finding of the study revealed that the rural health unit nurse respondents perceived themselves to be very prepared ( $\bar{x}=21.30$ ,  $SD\pm 2.36$ ) in responding to patients with suspected STIs. Moreover, it showed that the nurses in rural health unit facilities in the Province of Lanao Del Sur demonstrated and maintained a high state of readiness and mastery in responding to STIs cases using the six domains of preparedness.

Specifically, the rural health nurses were very prepared in responding to patients suspected of STIs in terms of attitude and behavior ( $35.9 \pm 3.61$ ), communication ( $18.80 \pm 1.81$ ), health assessment ( $18.60 \pm 2.11$ ), prevention of transmission ( $\bar{x}=18.7 \pm 1.95$ ), contact tracing ( $17.20 \pm 2.47$ ), and confidentiality ( $18.60 \pm 2.22$ ). Thus, it can be implied that the rural health unit nurses have high state of readiness and preparedness in assessing, treating, and managing patients diagnosed or suspected with STIs. Perceived level of preparedness in responding to patients with suspected STIs was shown in [Table 2](#).

### 3.3. Correlations between demographic profile and perceived level of preparedness in responding to patients suspected with STIs

Pearson product moment correlation coefficient revealed that there is a statistically significant relationship in the following: a) age and attitude and behavior ( $r=.78$ ,  $p=.008$ ); b) age and communication ( $r=.67$ ,  $p=.004$ ); c) age and health assessment ( $r=.41$ ,  $p=.008$ ); d) education and attitude and behavior ( $r=.75$ ,  $p<.001$ ); e) education and communication ( $r=.72$ ,  $p=.008$ ); and lastly f) education and health assessment ( $r=.75$ ,  $p=.018$ ).

In general, [Table 3](#) showed that the majority of the variables depicts a high correlation between a demographic profile (independent variable) and the perceived level of preparedness (dependent variable). Specifically, study findings revealed a high correlation in the following: age and attitude and behavior ( $r=.78$ ); education and attitude and behavior ( $r=.75$ ); education and communication ( $r=.72$ ); and education and health assessment ( $r=.75$ ).

On the contrary, the minority of the variables depicts a moderate correlation between a demographic profile (independent variable) and the

perceived level of preparedness. Specifically, the findings of the study revealed a moderate correlation

in the following: age and communication ( $r=.67$ ); age and health assessment ( $r=-.41$ ).

**Table 2:** Perceived level of preparedness in responding to patients with suspected STIs

Level of Preparedness	Mean Score	SD	Interpretation
Attitude and Behavior*	35.90	3.61	Very Prepared
Communication	18.80	1.81	Very Prepared
Health Assessment	18.60	2.11	Very Prepared
Prevention of Transmission	18.70	1.95	Very Prepared
Contact Tracing	17.20	2.47	Very Prepared
Confidentiality	18.60	2.22	Very Prepared
Total	21.30	2.36	Very Prepared

SD- standard deviation Scaling:  
 Not Prepared = 5-8.7  
 Poorly Prepared = 8.8-12.5  
 Adequately Prepared = 12.6-16.3  
 Very Prepared = 16.4-20

\*Scaling for Attitude and Behavior:  
 Not Prepared = 10-17.5  
 Poorly Prepared = 17.6-25.1  
 Adequately Prepared = 25.2-32.7  
 Very Prepared = 32.8-40

**Table 3:** Correlations between demographic profile and perceived level of preparedness in responding to patients suspected with STIs

Personal Profile and Variables	Correlation Value	Com-puted $p$ -Value	Analysis of $V$ Value	Decision
Age and Attitude and Behavior	.78	.008**	High Correlation	Reject $H_0$
Age and Communi-cation	.67	.004**	Moderate Correlation	Reject $H_0$
Age and Health Assessment	-.41	.008**	Moderate Correlation	Reject $H_0$
Education and Attitude and Behavior	.75	.000**	High Correlation	Reject $H_0$
Education and Communi-cation	.72	.008**	High Correlation	Reject $H_0$
Education and Health Assessment	.75	.018*	High Correlation	Reject $H_0$

SD- standard deviation;  $H_0$ - Null Hypothesis  
 NS – not significant ( $p \geq 0.05$ )  
 Correlation is significant at the \* $p \leq .05$ , \*\* $p \leq .01$  (2-tailed)

### 3.4. Correlations between factors influencing preparedness and respondents' perceived level of preparedness in responding to patients suspected with STIs

Spearman Rho Correlation ( $r$ ) revealed that there is a statistically significant relationship in the following: a) adequacy of facilities and services and attitude and behavior ( $r=.54$ ,  $p<.001$ ); b) adequacy of facilities and services and health assessment ( $r=.54$ ,  $p<.001$ ); c) adequacy of facilities and services and confidentiality ( $r=.18$ ,  $p=.034$ ); d) adequacy of supplies and equipment and attitude and behavior ( $r=.45$ ,  $p=.042$ ); e) adequacy of supplies and equipment and health assessment ( $r=.33$ ,  $p=.032$ ); f) adequacy of supplies and equipment and prevention of transmission ( $r=.45$ ,  $p=.032$ ); g) adequacy of training and seminars and attitude and behavior ( $r=.33$ ,  $p<.001$ ); h) adequacy of training and seminars and communication ( $r=.18$ ,  $p=.035$ ); and lastly, i) adequacy of training and seminars and confidentiality ( $r=.39$ ,  $p<.001$ ).

In general, Table 4 showed that the majority of the variables depicts a moderate correlation between factors influencing nurse preparedness and perceived level of preparedness. Specifically, study findings found a moderate correlation in the following: adequacy of facilities and services and attitude and behavior ( $r=.54$ ); adequacy of facilities and services and health assessment ( $r=.54$ ); adequacy of supplies and equipment and attitude and behavior ( $r=.45$ ); adequacy of supplies and equipment and health assessment ( $r=.33$ ); adequacy of supplies and equipment and prevention of

transmission ( $r=.45$ ); adequacy of training and seminars and attitude and behavior ( $r=.33$ ); and lastly, adequacy of training and seminars and confidentiality ( $r=.39$ ).

On the contrary, the minority of the variables depicts a low correlation between factors influencing nurse preparedness and perceived level of preparedness. Specifically, study findings revealed a low correlation in the following: adequacy of facilities and services and confidentiality ( $r=.18$ ), and adequacy of training and seminars communication ( $r=.17$ ).

### 4. Discussion

The results suggested that the registered nurses involved in the study were relatively younger and were assumed to be more receptive to the challenges of handling patients with suspected STIs (Altuntas and Baykal, 2010). It was emphasized that marital status affected the performance of employees in their respective work setting. Based on a study in India, it showed that a single or unmarried employee could perform well since their commitment concerning their family and other circumstances are considerably less when compared to the married employees (Padmanabhan and Magesh, 2016). Furthermore, nurses with higher degrees were especially well-suited in meeting complex healthcare demands, reducing patient risk, and lowering mortality. Thus, proceeding to higher education will enhance and guide the competence of an individual employee like rural health nurses in formulating, implementing and evaluating an evidence-based



patient care that will improve and exposed community nurses in preparedness of responding to

emerging cases of STIs in the community setting (Tanner, 2006).

**Table 4:** Correlations between factors influencing nurses' preparedness and perceived level of preparedness in responding to patients suspected with STIs

Factors and Variables	Correlation Value	Computed <i>p</i> -Value	Analysis of <i>V</i> Value	Decision
Adequacy of Facilities and Services and Attitude and Behavior	.54	.000**	Moderate Correlation	Reject $H_0$
Adequacy of Facilities and Services and Health Assessment	.54	.000**	Moderate Correlation	Reject $H_0$
Adequacy of Facilities and Services and Confidentiality	.18	.034*	Low Correlation	Reject $H_0$
Availability of Supplies and Equipment and Attitude and Behavior	.45	.042*	Moderate Correlation	Reject $H_0$
Availability of Supplies and Equipment and Health Assessment	.33	.032*	Moderate Correlation	Reject $H_0$
Availability of Supplies and Equipment and Prevention of Transmission	.45	.032*	Moderate Correlation	Reject $H_0$
Adequacy of Trainings and Seminars and Attitude and Behavior	.33	.000**	Moderate Correlation	Reject $H_0$
Adequacy of Trainings and Seminars and Communication	.17	.035*	Low Correlation	Reject $H_0$
Adequacy of Trainings and Seminars and Confidentiality	.39	.000*	Moderate Correlation	Reject $H_0$

SD- standard deviation;  $H_0$ - Null Hypothesis

NS – not significant ( $p \geq 0.05$ )

Correlation is significant at the \* $p \leq .05$ , \*\* $p \leq .01$  (2-tailed)

The finding of the study that “Majority of the rural health unit facilities and health care services for STIs program were inadequate” implies that the information and awareness-raising aspect concerning STIs Program is not highly developed in Lanao Del Sur province. The facilities seemed to be under-equipped when it comes to providing information materials, as well as developing programs of action in line with local and national laws. This is in line with the general situation of the Philippines, as there seems to be a lack of awareness of sexually transmitted diseases and its treatment. The difficulties to healthcare resulted in unmet healthcare needs involving the deficiency in deterrent and screening services and management of illnesses.

Furthermore, the result of the study “Most of the rural health unit availability of supplies and equipment for STIs program were inadequate” implied that STI prevention and treatment was not a priority for the rural health units in the Province of Lanao Del Sur. Hence, inadequate supplies and equipment for treatment of STIs is also associated with an inadequate budget to improve the rural health unit facilities since Lanao Del Sur Province is one of the poorest regions in the Philippines. This finding of the study was supported by a certain study which focuses on the barriers to asymptomatic screening and other STD services for adolescents and young adults. One of the barriers to accessing the Sexually Transmitted Disease (STD) services among the population group was the lack of available healthcare services and cost services (Tilson et al., 2004). Likewise, the lack or inadequate resources available affects the public health nurses' ability to properly care for patients with STIs.

On the other hand, the finding of the study that “Majority of the rural health unit (RHU) nurse respondents have not attended training and seminars about STIs” simply means that the majority of the Rural Health Units (RHUs) in Lanao Del Sur

Province does not provide these seminars. At some point, all or the majority of the respondents feel that the training and seminars were inadequate in helping them to become more equipped when dealing with patients with STIs. According to the Price and Reichert (2017), the need to attend continuing nursing education can help nurses keep abreast with the rapidly changing health care sector. Attending conferences, workshops, and seminars are essential factors necessary to promote continuous advancements in nursing, technology, and research. In contrast, in-service training for nurses is needed in the improvement of nurses' knowledge towards the care of patients with sexually transmitted diseases (Murphy, 2009).

The age and the highest educational attainment have found out to have a significant relationship with the domains of preparedness such as attitude and behavior, communication and health assessment. Also, the respondent's age and the number of suspected STIs patients handled have also found out to have a significant correlation of the domain of preparedness in terms of confidentiality. These findings were not surprising. Research has shown that one's age and educational attainment can be a factor in the overall attitude of nurses, which can either impact positively or negatively in the quality of their nursing care. The result of the study is consistent with the findings in Nigeria which revealed significant relationships between the age of the nurses and their educational level with nurses' attitude towards the care of HIV/AIDS patients. Accordingly, it showed that there was a significant relationship between the nurses' marital status, religion, and their attitude towards the care of HIV/AIDS patients (Okpala et al., 2017).

In contrast to the findings of this study, Devkota et al. (2017) revealed that one of the factors that positively influenced the levels of attitudes among healthcare providers were being female and younger. Thus, gender and age make the healthcare

provider more prepared in responding to patients with STD in terms of his/her attitude (Tanimoto et al., 2018). In contrast, the findings in California revealed that the attitude of nurses towards patients with AIDS did not differ conferring to the nurses' age, academic preparation or earlier training skill (Murphy, 2009).

In general, the study findings revealed that the factors influencing the preparedness of rural health nurses in responding to patients with STIs were significantly related to the domains of preparedness. More specifically, facilities and services in the rural health unit level have found out to have a significant correlation with the following domains of preparedness in terms of attitude and behavior, health assessment and confidentiality. Whereas, supplies and equipment have found out to have a significant relationship with the following domains of preparedness in terms of attitude and behavior, health assessment and prevention of transmission. Lastly, training and seminars also showed a significant correlation with the following domains of preparedness in terms of attitude and behavior, communication and confidentiality. These findings are consistent with the research study in Hawaii which outlined ultimately two of the three factors found out to partake a significant influence in the provision of health care. Accordingly, the availability of trained medical personnel demonstrates a significant relationship in health care quality. Another study revealed that the in-service training for nurses is significantly associated with the improvement of their knowledge and promotes a positive attitude towards the care of patients with sexually transmitted diseases (Murphy, 2009). Also, these findings are congruent with the study in Berkeley, United States which stated that the mainstream of healthcare providers is relentlessly inadequate as evidenced by the scarcity of resources including facility infrastructures and medical equipment (Lin et al., 2013a). The findings which cited that the high volume and increased the number of patients devised to safeguard STD patients' confidentiality drawn beyond problematic is supported by Lin et al. (2013a). Thus, respecting and confirming patient's confidentiality have been considered as indispensable obligations of healthcare providers and the prime responsibilities of healthcare organizations (Lin et al., 2013b).

## 5. Conclusion

The rural health nurses are very prepared in responding to suspected STIs cases. Thus, nurses in this study have a high level of readiness and confidence in their knowledge, skills, and abilities in responding to patients diagnosed or suspected to be diagnosed with STIs. Also, the demographic profile positively affects the perceived level of preparedness among nurses. Likewise, the factors influencing preparedness is moderately correlated with a perceived level of preparedness. The results suggest that basic healthcare facilities (equipped with

necessary supplies and equipment) and training and continuous education for healthcare workers, especially in the primary care level all play a critical role in the prevention, detection and management of STIs.

Based on the aforementioned findings, appropriate recommendations were identified: (1) Facilities and services of the rural health units should be enhanced to cater the health care needs of the communities; (2) Availability and adequacy of supplies and equipment needed by health workers in the provision of quality health services should always be accessible in the healthcare facility; (3) In-service training and seminars for health workers especially nurses should be a top priority by the management because the absence of necessary training would put healthcare providers at the rural health units unprepared and ineffective in the effective treatment and management of patients diagnosed with STIs; (4) Continuing education such as pursuing master's degree and even doctorate degrees if possible should be encouraged to all health workers considering its future benefits not only in the personal and professional career of rural health nurses but most especially to the patients and organization where they are affiliated; (5) Nurse – village ideal ratio should be considered and implemented as soon as possible considering its importance in the delivery of efficient and effective nursing care to communities, (6) Mentorship training and orientation for beginning rural health nurses about STIs before the actual deployment in the health center and catchment areas is highly encouraged; (7) Collaboration and teamwork between the Department of Health (DOH), Integrated Provincial Health Office (as the main health government agency in the province), the Rural Health Units and the Local Government Units should be strengthened for the successful implementation of STIs program; Lastly, (8) Broader range of data collection and locations exploring quality of performance of rural health unit nurses with regards to the six domains of preparedness in responding to a patient with or suspected STIs is recommended for future researchers and for further studies.

## Compliance with ethical standards

## Conflict of interest

The authors declare that they have no conflict of interest.

## References

- Altuntas S and Baykal U (2010). Relationship between nurses' organizational trust levels and their organizational citizenship behaviors. *Journal of Nursing Scholarship*, 42(2): 186-194. <https://doi.org/10.1111/j.1547-5069.2010.01347.x> PMID:20618602
- Bungay V Handlovsky I, Phillips JC, and Prescott C (2017). A scoping review of the literature on nursing practices with persons seeking care for sexually transmitted infections.

- Journal of Clinical Nursing, 26(1-2): 33-48.  
<https://doi.org/10.1111/jocn.13561> **PMid:27571241**
- Devkota HR, Murray E, Kett M, and Groce N (2017). Healthcare provider's attitude towards disability and experience of women with disabilities in the use of maternal healthcare service in rural Nepal. *Reproductive Health*, 14: 79.  
<https://doi.org/10.1186/s12978-017-0330-5>  
**PMid:28662710 PMCID:PMC5492880**
- Hinkle JL and Cheever KH (2018). Brunner and Suddarth's textbook of medical-surgical nursing. Wolters Kluwer, South Holland, Netherlands.
- IAMAT (2016). Philippines General health risks: Sexually transmitted infections. International Association for Medical Assistance to Travellers, Toronto, Canada.
- Ignatavicius DD and Workman ML (2010). Medical-surgical nursing: patient-centered collaborative care. Saunders, Philadelphia, USA.
- Lin C, Lin SW, Weng SF, and Lin YS (2013a). Increased risk of sudden sensorineural hearing loss in patients with human immunodeficiency virus aged 18 to 35 years: A population-based cohort study. *JAMA Otolaryngology-Head and Neck Surgery*, 139(3): 251-255.  
<https://doi.org/10.1001/jamaoto.2013.1709>  
**PMid:23429891**
- Lin YK, Lee WC, Kuo LC, Cheng YC, Lin CJ, Lin H L, and Lin TY (2013b). Building an ethical environment improves patient privacy and satisfaction in the crowded emergency department: A quasi-experimental study. *BMC Medical Ethics*, 14: 1-8.  
<https://doi.org/10.1186/1472-6939-14-8>  
**PMid:23421603 PMCID:PMC3616842**
- Murphy SA (2009). Leading, coaching, and mentoring the team: A how-to guide for medical practices. Medical Group Management Association, Englewood, USA.
- Okpala PU, Uwak R, Nwaneri AC, Onyiapat JL, Emesowum A, Osuala EO, and Adeyemo FO (2017). Nurses' knowledge and attitude to the care of HIV/AIDS patients in South East, Nigeria. *International Journal of Community Medicine and Public Health*, 4(2): 547-553.  
<https://doi.org/10.18203/2394-6040.ijcmph20170289>
- Padmanabhan L and Magesh R (2016). Difference between employees marital status and performance level in IT industry. *Imperial Journal of Interdisciplinary Research*, 2(6): 1173-1176.
- Price S and Reichert C (2017). The importance of continuing professional development to career satification and patient care: Meeting the needs of noveice to mid- to late-career nurses throughout their career span. *Administrative Sciences*, 7(2): 17.  
<https://doi.org/10.3390/admsci7020017>
- Tanimoto T, Maeda Y, Morita T, Kusumi E, and Takahashi K (2018). An increasing incidence of syphilis among young women in Japan. *Internal Medicine Journal*, 48(1): 101-102.  
<https://doi.org/10.1111/imj.13657> **PMid:29314522**
- Tanner CA (2006). Thinking like a nurse: A research-based model of clinical judgment in nursing. *Journal of Nursing Education*. 45(6): 204-11.
- Tilson EC, Sanchez V, Ford CL, Smurzynski M, Leone PA, Fox KK, and Miller WC (2004). Barriers to asymptomatic screening and other STD services for adolescents and young adults: Focus group discussions. *BMC Public Health*, 4: 21.  
<https://doi.org/10.1186/1471-2458-4-21>  
**PMid:15189565 PMCID:PMC436061**
- WHO (2016). Sexually transmitted infections (STIs). World Health Organization. Geneva, Switzerland.