

Extent Of Compliance To Standard Precautions Among Healthcare Workers In Accredited Birthing Facilities In San Jose, Occidental Mindoro, Philippines

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Abstract.

This study was conducted to determine the extent of compliance of health care professionals employed in birthing facilities in the municipality of San Jose, Occidental Mindoro. Specifically, it sought to determine the demographic data of the respondents as to age, educational attainment and years of experience; investigate their level of compliance to standard precautions and examine if there exists a significant relationship between the demographic variables of the respondents and their level of compliance to standard precautions. There were 23 health workers who participated in the study. The main instrument used in the study is the CSPS, a standardized checklist for measuring compliance to SP. Results showed that health workers in birthing facilities in the municipality are young, graduates of bachelor's degree and are new in the service. They are also highly compliant with SP. It was also found that age and experience are significantly related with compliance to SP. The researchers recommend that this study be replicated using other health professionals as respondents such as doctors since they are the ones who are most exposed to health hazards. It is also suggested that further studies be conducted considering other variables which are not covered in this study.

Keywords: Compliance, standard precautions, health workers

I. INTRODUCTION

Standard precautions is defined as a set of infection prevention practices that apply to all patients, regardless of suspected or confirmed diagnosis or presumed infection status. These are devised to minimize the risk of diffusion of blood-borne diseases and pathogens originating from human body elements. Standard Precautions have been adopted worldwide with subsequent modification since these were initially released Adebayo, 2015 The World Health Organization reported that 1,400,000 people worldwide suffer from complications related to Healthcare-Associated Infection (HAI). HAIs are linked with increased days of hospital stay, unnecessary mortality, and economic and psychosocial impact on the people involved, in addition to their families and communities (Anderson, 2010; WHO, 2011). The rate of inevitable hospital acquired infections in developing countries due to medical care is assessed to be about 40% or above. Increased infant mortality in developing countries resulted from hospital acquired infections which is one of the main causes as some studies have revealed (WHO, 2014). Nosocomial infections, such as endometritis, postoperative pelvic infection, urinary tract infections, neonatal sepsis, etc., are serious complications in normal vaginal delivery. The occurrence of postoperative infections approaches 38%. Surgical site infection which is the third most common nosocomial contamination comprises gynecological and obstetrics source (Faro, 2018).

According to WHO, (2016), standard precautions include: hand sanitation, routine of Personal Protective Equipment (PPE), observing sterile non-touch technique, decontamination and sterilization of ecofriendly apparatus and clothing used during patient care, environmental regulation (e.g., surface cleaning), health provision waste management appropriate waste segregation of sharps, waste isolation excluding sharps, and quarantine of patients according to condition levels as a source of infection transmission. In spite of widespread adoption of Standard Precautions by organizations, gaps in their implementation by healthcare workers have been noted and percutaneous injuries from needle sticks and sharp instruments continue to arise (Pwer, 2016; Kevitt, 2015) This paper tried to examine the extent of compliance of health care providers particularly the nurses

and midwives in birthing facilities in the municipality of San Jose, Occidental Mindoro. In spite of widespread adoption of Standard Precautions by organizations, gaps in their implementation by healthcare workers have been noted (Gammon, 2008; Powers, 2016). This finding prompted the proponents to conduct this study.

Objectives

This study aimed to investigate the compliance of healthcare providers to standard precaution as one of the major requirements in practicing the profession of health workers as stipulated by WHO and DOH.

Specifically, it sought:

1. To determine the profile of the respondents in terms of:
 - 1.1 age;
 - 1.2 gender;
 - 1.3 education; and
 - 1.4 years of experience
2. To determine the extent of compliance of healthcare providers on the standard precautions in birthing facilities;
3. To test if there is a significant relationship between the profile variables and the extent of compliance of health providers in birthing facilities.

II. METHODS

A cross-sectional survey design was conducted in accredited birthing center in San Jose, Occidental Mindoro. Nurses and midwives who are employed in the birthing facilities were included in the study. A questionnaire was adopted from Compliance of Standard Precaution Scale Italian Version (CSPS-It) by Donati, 2019, it is a reliable and validated when the author conducted using this instrument to the health personnel experts to be able to obtain the data and information needed in the study. It composed of 2 parts: The first part consists of items for the demographic profile and the second part is the Compliance with the Standard Precautions Scale-It (CSPS-It). The respondents answered through on-line survey. Ethical considerations were observed during the conduct of the study. An informed consent form was sent to the respondents before the questionnaires were uploaded through their e-mail account. Only those who expressed willingness to participate were given the instrument.

III. RESULTS AND DISCUSSION

Table 1 presents the demographic data of the respondents. As can be gleaned from the table, Majority of the respondents belong to the age range of 26-35 years old (60.87%), are graduate of a baccalaureate degree (52.17%) and with the length of service of 1-5 years (47.83%). This means that the health care providers in birthing facilities in the municipality of San Jose, Occidental Mindoro are dominated by young professionals and are still considered “new” in terms of their job experience. This confirms the findings of Abrigo (2019) that through the years, health professionals are getting younger. According to his study, in 1990, the median age of health workers were 34-31 years. By the year 2015, the age have gone down to 28-32 years old. Likewise, Perrin et al. (2007) reported that most of the nurses in the Philippines are young.

Table 1. Demographic profile of respondents.

Variables	Frequency	Percentage
<u>Age</u>		
15-25	4	17.39
26-35	14	60.87
36-45	3	13.04
46-55	2	8.70
<u>Educational Attainment</u>		
Diploma	11	47.83

Baccalaureate Degree	12	52.17
Master's Degree	0	0
<u>Work Experience</u>		
1-5 years	11	47.83
6-10 years	6	26.08
11-15 years	3	13.04
16-15 years	2	8.71
16-20 years	1	4.35

Data in Table 2 reflects the indicators for standard precautions of health workers. It can be observed that almost all the indicators are highly complied with by the health workers except indicator no. 2 which is using water only for handwashing. All other indicators such as washing hands between patient contact (m=3.96); using alcohol handrubs as alternative (m=3.78); recapping used needles after giving an injection (m=3.83); putting used sharp articles into sharp objects (mean=4.00); Disposing sharpbox only when it is full (3.57); removing PPE in a designated area (m=3.96); taking a shower in case of extensive splashing even after putting on PPE (m=3.87); covering wounds or lesions with waterproof dressing before patient contacts (m=3.91); wearing gloves when exposed to body fluids, blood products, and any excretion from patients (m=4.00); changing gloves between patient contacts (mean=3.91); decontaminating their hands immediately after removal of gloves (mean=4.00); covering their mouth and nose with mask (m=4.00); wearing surgical masks, goggles and apron and face shield (m=3.91); always using surgical mask and disposable PPE (m= 3.91); wearing gown or apron when exposed to blood, body fluids and other patient excretions (m=3.84); Wastes contaminated with blood, body fluids, secretions and excretions are placed in bags as respect to patient's infection status (m=3.78); decontaminating surfaces and equipment after use (m=3.96); wearing gloves to decontaminate used equipment with visible soil (m=3.91) and lastly, cleaning up spillage of blood or other body fluids immediately with disinfectants (m=3.96).

The overall mean is 3.47 which has the interpretation of "High Compliance".. Thus, this only show that our health workers assigned in accredited birthing facilities are compliant with standard precautionary procedures. This result is worth noting since a previous study conducted by Luo (2010) suggests that one of the factors impacting compliance with the standard precautions in any hospital settings is sound knowledge on its concepts and principles. Sax et al. (2015) reported that lack of knowledge is the major reason for non-adherence to standard and isolation precautions. It only means that our health workers in birthing facilities are knowledgeable about the safety precautions and they are practicing it. Pasay, et al. (2015) conducted the same study among hospital nurses and they yielded the same results. The respondents showed high compliance to standard precautions. Another study of Chan et al., 2002 about the Nurse's knowledge of and compliance with universal precaution in an acute care hospital in Hongkong revealed that a high compliance was reported regarding hand-washing, disposal of needles and glove usage. However, the use of other protect wear such as masks and googles was uncommon. The results also showed no significant relationships between nurse's knowledge and compliance with Universal Precautions.

Table 2. Compliance to standard precautions of health care workers

Indicators	Mean	Interpretation
1. I wash my hands between patient contacts	3.96	High Compliance
2. I only use water for hand washing	3.13	Low Compliance
3. I use alcohol hand rubs as an alternative if my hands are not visibly soiled	3.78	High Compliance
4. I recap used needles after giving an injection	3.83	High Compliance
5. I put used sharp articles into sharp objects	4.00	High Compliance
6. The sharp box is disposed only when it is full	3.57	High Compliance
7. I remove Personal Protective Equipment (PPE) in a designated area	3.96	High Compliance
8. I take a shower in case of extensive splashing even after I	3.87	High Compliance

have put on PPE		
9. I cover wounds or lesions with waterproof dressing before patient contacts	3.91	High Compliance
10. I wear gloves when I exposed to body fluids, blood products, and any excretion of patients	4.00	High Compliance
11. I change gloves between patient contacts	3.91	High Compliance
12. I decontaminate my hands immediately after removal of gloves	4.00	High Compliance
13. My mouth and nose are covered when I a mask.	4.00	High Compliance
	3.91	High Compliance
14. I wear a surgical mask alone or in combination with goggles, face shield and apron whenever there is a possibility of a splash or splitter	3.91	High Compliance
15. I always use surgical mask and disposable PPE	3.84	
16. I wear a gown or apron when exposed to blood, body fluids	3.78	High Compliance
Or any patient excretions		High Compliance
17. Wastes contaminated with blood, body fluids, secretions	3.96	
And excretions are placed in bags as respect to patient's infection status	3.91	High Compliance
18. I decontaminate surfaces and equipment after use	3.96	High Compliance
19. I wear gloves to decontaminate used equipment		High Compliance
20. I clean up spillage of blood or other body fluids immediately		High Compliance
With disinfectants		High Compliance
Overall Mean		High Compliance
	3.47	High Compliance

Scale: 1.00-1.50 Non-compliance 1.51-2.50 Very Low Complianc 2.51-3.50 Low Compliance
3.51-4.50 High Compliance 4.51-5.00 Very High Compliance

On the test of the significant relationship between the profile variables and extent of compliance to standard precautions, as shown in Table 3, it is revealed that age and work experience of the respondents significantly related with their compliance to standard precautions. However, no significant relationship was found between educational attainment and compliance to standard precautions A study conducted by Colet (2017) confirmed that age is a factor in compliance to standard precautions. Results suggested that younger nurses are more compliant. This can be due to the fact that younger health professionals are more retentive and more careful to details as compared with their older counterparts. However, this finding was refuted by Pasay, et al. (2015) who claimed that there really is a significant relationship between the two variables but found that older nurses are more compliant with standard precautions.

The statistical calculation on the test of significant relationship using the Pearson *r* correlation coefficient revealed that work experience and compliance to SP are statistically related. This finding is supported by Pasay (2017), who found that nurses with more years of work experience had higher compliance compared to the least experienced. Similarly, this is also consistent with the finding of Fayaz, et al. (2014). The longer professional exposure of nurses may attribute to their better compliance. On the contrary, the study of Hamid, Aziz, Anita & Norlijah, 2010 showed a small, positive correlation between knowledge and actual practice of universal precautions ($r=0.300$, $n=206$, $p< 0.001$) amongst health care workers. Factors such as age and years of experience did not contribute towards acquisition of knowledge about blood –borne illness or the practice of universal precaution. However, no statistical significance was found between educational attainment and compliance to SP of the respondents.

Table 5. Correlation analysis between profile variables and compliance to standard precautions

Compliance to standard precautions	Correlation Coefficient	Significance	Interpretation
Age	.387**	.000	Significant
Educational Attainment	.437	.065	Not Significant
Work Experience	.757**	.000	Significant

p-value >.01=Significant

IV. CONCLUSION

The following conclusions can be inferred from this study:

1. The accredited birthing facilities in San Jose, Occidental Mindoro are maintained by young health workers who are graduates of Baccalaureate degree and with a short span of work experience.
2. The health workers are highly compliant with the standard precautionary measures.
3. Profile variables such as age, and work experience significantly related with the compliance to standard precautions of health workers. However, no relationship was found between educational attainment and compliance to SP.

V. RECOMMENDATIONS

1. This study can be replicated to other groups of health workers such as doctors who are more exposed to health hazards
2. Strengthening of compliance to precautionary measures should be of paramount importance in teaching would-be health professionals. Since OMSC offers BS Midwifery, hence, this should be embedded in the curriculum and be strictly observed during their clinical exposures.
3. Other variables not covered by this study can further be investigated in terms of compliance to standard precautions such as gender, marital status, type of work (private or government-owned). Variables which may also have a bearing on the compliance to SP such as knowledge, beliefs and attitudes of health workers can also be included in future studies.

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