PERCEIVED WORKENVIRONMENT AND ASSOCIATED FACTORS AMONG NURSES WORKING IN JIMMA UNIVERSITY MEDICAL CENTER, OROMIA REGIONAL STATE, SOUTH-WEST ETHIOPIA.

BY: PERCEIVED WORKENVIRONMENT AND ASSOCIATED FACTORS AMONG NURSES WORKING IN JIMMA UNIVERSITY MEDICAL CENTER, OROMIA REGIONAL STATE, SOUTH-WEST ETHIOPIA.

(BScN)

A THESIS TO BE SUBMITTED TO JIMMA UNIVERSITY,INSTITUTE OF HEALTH,FACULTY OF HEALTH SCIENCES,SCHOOLOF NURSING AND MIDWIFERYIN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF SCIENCEIN ADULT HEALTH NURSING.

JUNE, 2018

JIMMA, ETHIOPIA

JIMMA UNIVERSITY

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SCHOOL OF NURSING AND MIDWIFERY

PERCEIVED WORK ENVIRONMENT AND ASSOCIATED FACTORS AMONG NURSES WORKING IN JIMMA UNIVERSITY MEDICAL CENTER, OROMIA REGIONAL STATE, SOUTH-WESTETHIOPIA.

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SUMMARY

Background: *Nurse Workenvironment can be described as the system that supports nurses' control over the delivery of nursing care, the environment in which care is delivered and the characteristics of an organization that facilitate or constrain professional nursing practice. Perception towards nurse work environment can be affected by many factors like organizational support, autonomy and collegial relationship.*

Objective: *The main objective of this study was to assess perceived work environment and associated factors among nurses working in Jimma University Medical Center, Jimma town, south west Ethiopia.*

Methods: *Institutionalbased cross-sectional studydesign with quantitative data collection methodwasusedfrom March 15 to 27, 2018. Data was collected by using a modifiednurse work index questionnaire.250 participantswere included in the study by simple random sampling technique using computer generated random numbers. Data was entered into Epidata version 3.1 and exportedto SPSS version 20 for analysis. Descriptive statistics were used to describe the sample and results of the study. Linear regressionwas used to determine significant associations among the variables.Finally p-value of <0.05 at 95% CI was used to declare statistical significance. Results were presented in text, tables, and figures.*

Result: *More than half (54%) of the respondents had low perception regarding their work environment. Control over the practice setting, autonomy and nurse physician relationship had significant association with perception towards nurse work environment.(R^2=0.562, p=<0.001, 95% CI).*

Conclusion and Recommendation: *Over all nurses' perception towards work environment was low.There were significant associations between perceptions towards nurse work environment and autonomy, control over the practice setting and nurse-physician relationship.To increase the level of perceptions towards nurse work environment among nurses, the hospital administrator should work on enhancing nurse-physician relationship, autonomy and control over the practice setting.*

Key words: *Jimma University Medical Center, perception, nursework environment*

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ABBREVIATIONS/ACRONYMS

JUMC-Jimma University Medical Center

NWE-Nurse Work Environment

NWI-R-Nurse Work Index-Revised

PES-NWI-Practice Environment Scale of Nursing Work Index

US-United States

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

A nurse work environment can be described as the system that supports nurses' control over the delivery of nursing care, the environment in which care is delivered and the characteristics of an organization that facilitate or constrain professional nursing practice.Nurse work environment is under the spotlight of international interest as it has been scientifically approved to help in providing opportunities to improve working conditions which play a major role in maintaining adequate level of staff, and other nurses' outcome such as job satisfaction and retention(1)(2).

Nursing work environments with higher levels of employee participation in decision-making and control over working conditions have been associated with increased employee satisfaction and performance, specifically, work environments where nurses report high levels of control over nursing practice have been associated with a number of positive outcomes, including lower staff turnover rates, fewer nurse burnout, and lower patient mortality rates (4).

Nurses who had high perception concerningnurse work environment were more committed to the organization; more satisfied, could create a culture of safety and were able to provide the highest quality of care. Nurses' perception of nursework environment influences nurses' job satisfaction. Traditional job satisfaction relates to the feeling an individual has about his/her job which is affected by intrinsic (recognition, work itself or responsibility) and extrinsic factors (working Conditions, company policy or salary)(6)(7).

The healthy work environment is the crucial fact and challengefor the nurse managers and leaders so they have to usually applyfrequent assessment for the nurse work environment to maintainand improve the health of environment. Evaluation of health care in the country tends to focus more on organizational and structuralaspects than on empirical outcomes of health care.The environment is an impact on the patients, nurses, andorganization outcomes where in care is delivered. When nurses aregiven authority in line with their responsibility, autonomy, and controlover patient care resources, they are in a better position to establishpositive relationships with physicians(8).

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A study done in Saudi Arabia showed that healthy work environments have mutually benefited patients, nurses, nurse managers, health-care providers, the health team, administration, the institution and the community at large. It also showed that there are no initiatives from the hospital administration to improve the work environment. Improving the nurse work environment has been shown tobe a successful strategy against this phenomenon, as the nurse work environment is associated with nurse retention and job satisfaction(4)(5).

Globally, the environments in which nurses work influence the qualityof nursing practice and health care.The study done in China using cross sectional study design revealed that, areas rated as most in need ofimprovement included control over practice, nurse manager ability, leadership and support of nurses, nurse physician relationship andautonomy(24).Therefore, assessing perceived nurse work environment and its associated factors is very imperative.

1.2 STATEMENT OF THE PROBLEM

The International Council of Nurses and other affiliated organizations suggest that, due to today's global health workforce crisis, establishing favorable work environments across health sectors worldwide is of paramount importance if patient safety and health workers' wellbeing are to be guaranteed (8).

As nurses constitute the largest population of the healthcare workforce and at the same time they are facing problems related to unfavorable nurse work environment; World Health Organization (WHO) indicated that perceived nurse work environment affect the quality of care both directly and indirectly (9).

In a study doneon staffnurses in United States, concluded that the combinationof inadequate staffing levels and other work environmentcharacteristics contributed to both higher rates of mortality andmorbidity. The presenceof poor relationships among nurses and physiciansmay result in an increased risk of mortality and lengthof stay among patients.(10)(11).

Caring for patients in a work area that does not promote safe, high quality, cost-effective care increases a patient's risk of adverse outcomes, medication errors, falls, and hospital acquired infections (HAIs), and increased length of stay. When nurses negatively perceived their work environment, patients were less satisfied. The study also found that when resources and staffing were insufficient and the foundations for quality care were missing or lacking, nurses felt unable to deliver high-quality care(12).

The current nursing workforce shortage represents one of the most serious crises that threatening the quality health care industry. In response to such crisis, health care industry had failed to maintain a work environment that is conducive to safe, quality nursing practice and, as a result, failed to retain experienced nurses within patient care settings(13)

While improvements in nurse work environmentare considered essential to address the nursingshortage, relatively little is known about the nurse workenvironment in most hospitals.Quality of care is subject to the influence of organizational factors, of which the nurse work environment is a critical one(14)(15).

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In Australia, a lack of control over nurse work environment has been identified as a significant stressor for mental health nurses. In combination with other work environment characteristics, poor collegial relationships have been linked to higher rates of patient mortality and complications in intensive care units(16)

A high perception towards work environment has a significant association on most nursereported quality of care and all nurse workforce outcomes (22).

Currently, nurses constitute the largest population of the healthcare workforce and at the same time are faced with problems related to unhealthy work environment. However, when handled well, those gaps can lead to a favorable outcome that may create a healthy work environment and a higher quality of care (25).

Perceived work environment was associated with nurses' rated frequency ofpulmonary infections, urinary tract infections and medication error while burnout dimensions were associatedwith urinary tract infections and medication error (26).

The increasing rate of hospital nurses leaving their workplace raised serious concern among the stakeholders. Past studies had found that nurse work environment was the key influence on nurses' leaving intention, but a study examining the perception of nurse work environment of hospital settings was scarce and,however, when handled well, this gap can lead to a favorable outcome that may create a favorablenurse work environment.

CHAPTER TWO: LITERATURE REVIEW

The study done in Saudi Arabia showed that,Participants were moderately perceived to their work environments, and there was an association between the characteristics of participants in relation with the work environment(4).

A study done in Makah, King Abdul-Aziz Universityindicated that, the overall nurse work environment mean is 2.80. The highest weighted mean (3.06) reflects the collegial nurse-physician relation while the staffing resource and adequacy was reported as the lowest dimension of nurse work environment with (2.61) as weighted mean(2).

The most significant and lowest rated characteristic ofthe nursing work environment was 'appropriate staffingand resources'.The mean level of work environment characteristicswas moderate (2.73 + 0.43, out of 4). The least mean score for the components of the work environment was 2.47 for nurse participation in hospital affairs and the highest score was 3.00 for collaboration between physicians and nurses(3)

A systematic review which includes fourteen quantitative studies stated that, hospital officials and decision makers need to work towards the implementation of a favorablework Environment so that the nurses' job satisfaction is secured at the highest possible level, particularly in this current and worsening world financial crisis. Nurses' perceptions of their work environment influence their job satisfaction(7).

The study done in Port Said hospitals concluded that, the nurses reportedthat do not have control over nursing practice. Consequently, the influence nurses have and the control they can exertover their practice has been linked to nurse satisfaction. In terms of nurse physician relationship and autonomy were ranking in the mild positive agreement among studied nurses. The highest level of agreement scores for characteristics of the nurse work environment (75.7%) was for nurse manager ability, leadership and support of nurses (8).

A study done on multigenerational workforce indicated that among the five subscales of the nurse work environment, respondents posted a low perception on staffing and resource adequacy alone.But when taken collectively, the means still revealed a low nurse work environment as perceived by the nurse respondents(9)

The study done in Canada stated that, the mean average of the overall PES-NWI was 2.60, suggesting that the ICU work environment was moderately healthy. The subscale that had the highest mean score was nurse-physician relationships (M = 3.05, SD = 0.54), while the subscales with the lowest mean scores was nurses' participation in hospital affairs (M = 2.43, SD = 0.55)(11).

ThePES-NWI subscale scores in the large sample of Pennsylvaniahospitals suggested that while some aspects of nurse work environment receives fair ratings (i.e., nursing foundationsfor quality and collegial relationships between nurses andphysicians), most receive poor ratings (nurse manager supportiveness, nurse participation in hospital affairs, andstaffing adequacy)(14).

The work environment of nurses in the mental health acute inpatient setting is different to that ofnurses in medical or surgical settings. In particular, mental health nurses report their relationships with doctorsand the adequacy of staffing more favorably. However, the majority of nurses on some mental health wardshighlight issues of participation in the hospital, the foundations of quality care, and nursing leadership.(16)

In terms of subscale analyses, the study done in Malaysian private hospital showed that,"nursing foundations for quality of care" subscale (*M* = 2.99, *SD*=.33) was rated highest, and followed by "nurse manager ability, leadership, and support of nurses" subscale (*M* = 2.85, *SD* = .45)(17).

A cross sectional study done in Belgium hospitals revealed that, Nurse–physicianrelations,nursemanagementattheunitlevel, decision latitudeandsocialcapitalwereratedfavorably (scores of > 2.5 reflectpredominantlypositiveresponsestoquestions about desirableelementsbeingpresent)(18).

The study conducted on 519 US acute care hospitals stated, nurse work environment was favorable in all unit types(19).

Study conducted in Sao Paulo, Brazil indicated that, the score of the total mean of the sample for the environmentof nurse work was 2.40. The environment was more favorablefor the "relationships between physicians and nurses" (2.29), and less favorable for the "organizational support"(2.37) and "control of the environment" domains (2.52)(20).

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In study done in South Africa using cross sectional study design, more than half of the nurses (52.3%) rated their work environment as poor (22).

A study done in Japanese teaching hospital indicated that, absence of significant associations between the PES-NWI composite or subscale scores and nurse demographics (23).

2.1 CONCEPTUAL FRAMEWORK

This conceptual framework had developed after reviewing different literatures showing how nurse physician relationship, autonomy, control over the practice settingand socio-demographic characteristics affect perceived nurse work environment (2),(4),(21).
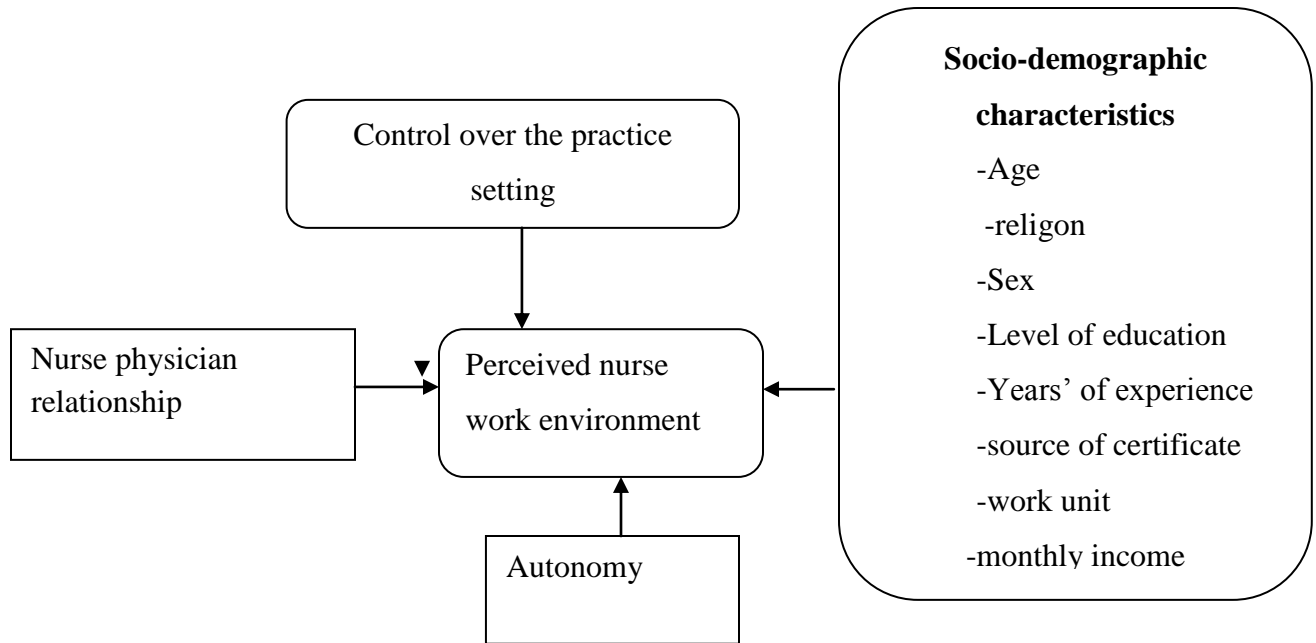
Figure 1: Conceptual framework developed after review of different literatures for perceived nurse work environment and associated factors in JUMC (2), (4), (21).

2.1 SIGNIFICANCE OF THE STUDY

Nurse work environment has been associated with the quality of patient care and nurse's satisfaction. Healthy work environment is important to patients, nurses, nurse managers, and the community at large. Different evidence at different parts of the world suggested nurse work environment can contribute for quality of patient care and nurse satisfaction(8).

Identifying levels and associated factors of perceived nurse work environment is crucial for nursing profession, nursing care quality and overall health care quality improvement. So the result of this study may provide evidence to design strategies that effectively help to improve nurse work environment in health care organizations, increase nurse and patient satisfaction.

The result of this study may help the hospital administrators by identifying factors related with low perception of nurse work environment andalso use as a secondary data source for future researchers who are interested in this area.

CHAPTER THREE: OBJECTIVES

3.1. General Objective

To assess perceived work environment and associated factors among nurses working at Jimma University Medical Center, Jimma town, south west Ethiopia, 2018

3.2. Specific Objectives

1. To determineperceived level of work environment among nurses working in Jimma University Medical Center, 2018
2. To identify factors associated with perceivedwork environment among nurses working in Jimma University Medical Center, 2018

CHAPTER FOUR: METHODS AND MATERIALS

4.1 Study area and period

The study was conducted in Jimma University Medical Center which is found in Jimma town, Oromia regional state. Jimma town is found at 352km distance from Addis Ababa, the capital city of Ethiopia. JUMC is one of the oldest public hospital in the country. It was established in 1930 E.C by Italian invaders for the service of their soldiers. It is the only teaching referral hospital in the southwestern part of the country, providing services for approximately 15 million people. It has out-patient and inpatient services, maternal and child health services, referral and follow-up services, physiotherapy and rehabilitative services, intensive care and recovery services.The hospital has a total of 550 nurses and total bed of 555based on data from statistics office of Jimma University Medical Center 2008. The study was conducted from March 15 to 26, 2018G.C.

4.2 Study design

Institutional based cross sectional study design was used.

4.3 Population

4.3.1 Source population

The source population was all nurses working in JUMC.

4.3.2 Study population

The study population wassamplednurses who are working in JUMC.

4.4 Inclusion and exclusion criteria

4.4.1 Inclusion criteria

➢ Nurses who had at least six months work experience in JUMC

4.4.2 Exclusion Criteria

➢ Nurses who were on annual leave, maternal leave and sick leave during data collection period.

4.5 Sample Size determination and sampling technique

4.5.1 Sample size determination

The sample size was determined using a formula for known target population with the following assumptions: an expected proportion of perception of nurses towards nurse work environment (p) of 50 % (since there is no similar study done in Ethiopia on perception of nurses towards nurse work environment), Z *a/2* is Z value at 95% Confidence level(1.96) and 0.05 margin of error (d)

$$n = \frac{N\,(Z\,a/2)^2 P\,(1\text{-}P)}{e^2\,(N\text{-}1) + (Z\,a/2)^2 P\,(1\text{-}P)} = \frac{550\,(1.96)^2\,0.5(1\text{-}0.5)}{(0.05)^2(550\text{-}1) + (1.96)^2 0.5\,(1\text{-}0.5)} = 227$$

Adding 10% for non-response rate the final sample size was 250

4.5.2 Sampling technique

Simple random sampling technique was employed. After taking the list of nurses from all working units, their corresponding number was entered in to computer and 250 nurses were included in the study using computer generated random numbers.

4.6 Study Variables

4.6.1 Dependent variable

➢ Perceived nurse work environment

4.6.2 Independent variables

➢ Socio-demographic characteristics
➢ Autonomy
➢ Control over the practice setting
➢ Nurse physician relationship

4.7 Operational definitions

Perceived nurse work environment is measured using all 21items on the NWI-R on a 4 point Likertlike Scale where 1= strongly disagree and 4= strongly agree. Composite mean score less

than 2.5 indicated unfavorable work environment, whereas composite mean score greater than or equal 2.5 indicated favorable work environment.

Autonomy is socially granted and legally defined freedom to make practice decisions without technical evaluations from sources outside the profession. Measured using the autonomy subscale of the NWI-R. All 4 items are measured on a 4 point Likert Scale where a 1= strongly disagree and 4= strongly agree and a higher score indicates a heightened sense of autonomy in the work environment. Range of scores is 4 to 16. Scores were developed by summing all items in the subscale, with equal weighting for all 5 items.

Control over Practice Setting Subscale: "a system that supports nurse control over the delivery of care and the environment in which care is delivered.

Nurse-Physician Relationship Subscale: is intended to measure the quality of the relationship, teamwork, and collaboration between the nurse and those physicians in which he or she most often comes in contact.

4.8 Data collection procedure and tools

4.8.1 Data collection Tools

To assure the quality of data, before data collection valid tool for perception of nurses' towards nurse work environment and its associated factors was adapted. A self-administered questionnaire wasadapted and used for collecting data for this study (8). The questionnaire comprisedfive parts; first part: socio-demographic characteristics. Second part: Control over the practice setting. Third part: Autonomy. Fourth part: Nurse-physician relationships and the fifth:Nursing Work Index Revised (NWI-R) scale which was created to measure perception towards nurse work environment.

4.8.2 Data Collection Procedure

First numbers corresponding to the nurses' name were taken, and then the numbers entered into computer and run for computer generated random numbers. 250 lists of numbers were generated and nurses corresponding to these numbers were given questionnaire.

4.9 Data quality assurance

Pre-testing was conducted at AgaroHospital on5% of the total sample size to identify any weakness in the organization and structuring of the research instruments. Training was provided for the facilitators and two supervisors. The filled questionnaire was checked for completeness by investigator and supervisors every day. Reliable tool was used.

4.10 Data processing and analysis

First, data was checked for completeness and then each complete questionnaire was given a code.Data was entered into Epidata version 3.1 and exported to statistical package for social science (SPSS) version 20 for analysis.Descriptive statistics were used to describe the sample and results of the questionnaires.

Bivariate and multivariable linear regression was used to determine significant associations among the variables.P-value of ≤ 0.25 was used to select candidate variable for multivariate linear regression and finally p-value of <0.05 at 95% CI was used to declare statistical significance. Results were presented in text, tables, and figures.

4.11 Ethical consideration

Ethical clearance was obtained from Institutional Review Board of Jimma University. A formal letter from Institute of healthwasgiven to JUMC and Agaro hospitaladministration to obtain their co-operation.Written informed consent was taken from respondents and the participants were assured that their participation kept anonymously.

4.12 Dissemination of result

The findings of this study will be presented and submitted to Jimma University, Institute of health, school of Nursing and Midwifery. The findings will be also distributed to JUMC so that based on the finding strategies will be designed for the identified problem.Finally, efforts will be made to publish the paper on reputable journal.

CHAPTER FIVE: RESULT

From all questionnaire distributed (n = 250), 250 sheets had returned, which provides a response rate of 100%.

Socio-demographic characteristics of the study participants

Most of the participants' ages were between 20-40 years,200 (80%). More than half of the participants were male which accounts, 128, (51.2%). Most of the participants were Bachelor degree holder148 (59.2%), followed by diploma, 102 (40.8%). Two-third of participants 167 (66.8%) got their certificate from public institutions. From the total number of nurses who participated in this study, majority of them were staff nurses, 231, 92.4%.Majority of participants,55 (22%) were from medical ward;followed by surgical ward, 48 (19.2%). Majority of participants, 152(60.8%) had experience of <5 years; followed by, 93(37.2%) 5 to 10years experience. (Table 1)

Table 1: Socio-demographic characteristics of study participants in the study of Perceived work environment and associated factors among nurses working in Jimma University Medical Center, Oromia regional state; South-West Ethiopia, 2018. (n=250)

Variables		f	%
Age	20-30	200	80
	30-40	45	18
	40-50	3	1.2
	>50	2	.8
Sex	Male	128	51.2
	Female	122	48.8
Ethnicity	Oromo	120	48
	Amhara	74	29.6
	Tigre	10	4
	Wolayitta	8	3.2
	Keffa	19	7.6
	Gurage	19	7.6
Religion	Orthodox	116	46.4
	Muslim	75	30
	Protestant	50	20
	Catholic	9	3.6
Marital status	Single	110	44
	Married	135	54
	Widowed	2	.8
	Divorced	2	.8

	Separated	1	.4
Monthly income	<3653	104	41.6
	3653-6488	134	53.6
	>6488	12	4.8
Educational status	Diploma	102	40.8
	Bsc	148	59.2
Years of experience	<5	152	60.8
	5-10	93	37.2
	10-20	3	1.2
	>20	2	.8
Current job position	Head nurse	16	6.4
	Staff nurse	231	92.4
	Supervisor	2	.8
	Director	1	.4
Current work unit	Critical care unit	30	12
	OPD	24	9.6
	Medical	55	22
	Surgical	48	19.2
	Pediatric	41	16.4
	Psychiatry	29	11.6
	Ophthalmology	9	3.6
	Others*	14	5.6
Source of certificate	Private	83	33.2
	Public	167	66.8

*Others include: Oby/Gyn ward, Maternity ward, Dental clinic, chronic illness clinic

Perception towards nurse work environment

The overall composite mean score for nurses' perception towards work environment was 2.33 (SD = .591). The study revealed that all the three subscales' composite mean score were found to be less than2.5 which indicated low perception towards nurse work environment, which indirectly showed the unfavourability of the nurse work environment.

In terms of subscale analyses, "nursing foundations for quality of care" subscale (M = 2.47, SD = .964) was rated highest, and followed by "nurse manager ability, leadership, and support of nurses" subscale (M = 2.27, SD = .933).

Conversely, "nurse participation in hospital affaires" subscale (M = 2.23, SD = .978) was rated lowest, where items "Nursing administrators consult with staff on daily problems and procedures" (M = 2.14, SD = 1.02), "Staff nurses are involved in the internal governance of the

hospital (e.g. practice and policy committees)" (M = 2.17, SD = .985) and opportunities for advancement(M = 2.17, SD = .984)were rated poorly.

Besides, the participants had rated lower for items on "A nurse director equal in power and authority to other top level hospital executives" (M = 2.19, SD = .978), "Career development/clinical ladder opportunity" (M = 2.21, SD = .992), and "Opportunity for staff nurses to participate in policy decisions" (M = 2.21, SD = 1.01) (Table 2).

Table 2: Level of perception regarding work environment in the study of Perceived work environment and associated factors among nurses working in Jimma University Medical Center, Oromia regional state; South-West Ethiopia, 2018.

S/N	Variables	Mean	Standard deviation
	Nurse manager ability, leadership and support of nurses	**2.27**	**0.933**
1	A supervisory staff that is supportive of nurses	2.30	.933
2	Supervisors use mistakes as learning opportunities, not criticism	2.22	.922
3	Praise and recognition for a job well done	2.28	.945
	Nursing foundation for quality of care	**2.47**	**0.964**
4	Active staff development/continuing education programs for nurses	2.25	.963
5	High standards of nursing care are expected by the administration	2.39	.964
6	A clear philosophy of nursing pervades the nursing environment	2.42	.963
7	Working with nurses that are clinically competent	2.70	.967
8	An active quality-assurance program	2.33	.960
9	A preceptor program for newly hired nurses	2.41	.920
10	Nursing care is based on nursing rather than a medical model	2.63	.928
11	Written up to date nursing care plans for all patients	2.47	1.03
12	Use of nursing diagnosis	2.64	.985
	Nurse participation in hospital affaires	**2.23**	**0.978**
13	Career development/clinical ladder opportunity	2.21	.992

14	Opportunity for staff nurses to participate in policy decisions	2.21	1.01
15	A nurse in senior management is highly visible and accessible to staff	2.32	.937
16	A nurse director equal in power and authority to other top level hospital executives	2.19	.978
17	Opportunities for advancement	2.17	.984
18	Administration that listens and responds to employee concerns	2.24	.939
19	Staff nurses are involved in the internal governance of the hospital (e.g. practice and policy committees)	2.17	.985
20	Staff nurses have the opportunity to serve on hospital and nursing committees	2.32	.961
21	Nursing administrators consult with staff on daily problems and procedures	2.14	1.02

Level of participants on control over the practice setting, autonomy and nurse-physician relationship

Table 3: Mean score and standard deviation for items of contributing factors in the study of Perceived work environment and associated factors among nurses working in Jimma University Medical Center , Oromia regional state; Southwest Ethiopia, 2018

S/N	Variables	Mean	SD
	Control over the practice setting	**2.44**	**0.962**
1	Adequate support services allow me to spend time with my patients	2.56	1.01
2	Enough time and opportunity to discuss patient care problems with other nurses	2.57	.955
3	Enough professional nurses on staff to provide quality patient care	2.44	.972
4	A nurse manager who is a good manager and leader	2.36	1.01
5	Enough staff to get the work done	2.32	.919
6	Opportunity to work in a specialized unit	2.39	.908
7	Patient assignments foster continuity of care (i.e. the same nurse cares for the same patient from one day to the next)	2.43	.959
	Autonomy	**2.45**	**0.947**
8	Nursing controls its own practice	2.6	.953
9	Freedom to make important patient care and work decisions	2.59	.941
10	Not being placed in a position of having to do things that are against my nursing judgment	2.47	.910
11	A nurse manager backs up the nursing staff in decision making even if the conflict is with a physician	2.25	.984
	Nurse-physician relationship	**2.27**	**0.987**
12	Physicians and nurses have good working relationship	2.32	.949
13	Much teamwork between doctors and nurses	2.22	.988
14	Collaboration (joint-practice) between nurses and physicians	2.26	1.02

This study indicated that,more than half 137(54.8%) of the study participants had control over the practice setting. While 53.2% of nurses were autonomous, 53.6% of them had also good physician relationship (Table 4)

Table 4: Level of control over the practice setting, autonomy and nurse physician relationship sorted by mean and standard deviation in the study of Perceived work environment and associated factors among nurses working in Jimma University Medical Center , Oromia regional state; Southwest Ethiopia, 2018

Control over the practice setting	
Mean	2.44
Standard deviation	0.962
Have control	137(54.8%)
Have no control	113(45.2%)
Autonomy	
Mean	2.45
Standard deviation	0.947
Not autonomous	117(46.8%)
Autonomous	133(53.2%)
Nurse-physician relationship	
Mean	2.27
Standard deviation	0.987
Poor relationship	116(46.4%)
Good relationship	134(53.6%)

Factors associated with perceptions of nurse work environment

Socio-demographic characteristics, control over the practice setting, autonomy and nurse-physician relationship were entered for bivariate analysis and three variables (control over the practice setting, autonomy and nurse-physician relationship were become candidate for multi-variable linear regression analysis at P-value less than or equal to 0.25. According to this study, controls over the practice setting, autonomy and nurse-physician relationship were identified as contributing factors for perceived work environment.For a unit increased in the score for control over the practice setting, perception towards work environment also increased by 0.348(p< 0.001, CI= 0.623, 1.205). It increased by 0.297(p<0.001, CI= 0.967,) for a unit increased for score of nurse-physician relationship. And also for a unit increased in score for autonomy, perception towards work environment also increased by 0.255(p<0.001, CI= 0.60, 1.618) (Table 5)

Table 5: Multivariable linear regression in the study of Perceived nurses work environment and associated factors among nurses working in Jimma University Medical Center , Oromia regional state; Southwest Ethiopia, 2018

Model		Standardized Coefficients	P-value	95% Confidence Interval for B		Collinearity Statistics	
		Beta		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)		.000	8.337	16.749		
	Total score for Autonomy	.255	.000	.600	1.618	.503	1.990
	T score for control over the practice setting	.348	.000	.623	1.205	.560	1.786
	Total score for nurse physician relationship	.297	.000	.967	1.939	.694	1.440

CHAPTER SIX: DISCUSSION

A nurse work environment isa system that supports nurses'control over the delivery of nursing care, the environment in which care is delivered and the characteristics of an organization that facilitates or constrains nursing work.This study examined Jimma University medical center nurses' perceptions of their work environment and its associated factors.

This study found that the overall nurse work environment composite mean score ($M = 2.33$, $SD = .591$), which showed relatively low perception regarding nurse work environment. On the other hand, the study done in Saudi Arabia showed that, perception of nurse work environment was moderately high. The other study done in Israel, with cross sectional study design stated that the perception towards nurse work environment was moderate (2) (3). The other study done in South Africa indicated that, more than half of nurses (52.3%) rated their work environment as poor (22). The discrepancy might be due to study area and sample size difference.

In this study, items "Nursing administrators consult with staff on daily problems and procedures", "Staff nurses are involved in the internal governance of the hospital (e.g. practice and policy committees)" and opportunities for advancement were rated poorly. But the study conducted at four private hospitals in the Peninsular Malaysia, "Staff nurses are involved in the internal governance of the hospital (e.g. practice and policy committees)" and opportunities for advancement were rated moderate (17).

Besides, the participants had rated lower for items on "A nurse director equal in power and authority to other top level hospital executives", "Career development/clinical ladder opportunity", and "Opportunity for staff nurses to participate in policy decisions".Butthe study conducted at four private hospitals in the Peninsular Malaysia revealed items "A nurse director equal in power and authority to other top level hospital executives", "Career development/clinical ladder opportunity", and "Opportunity for staff nurses to participate in policy decisions" were rated high moderate(17). Accordingly, the nurses perceived that nurse director was not equal in power and authority to other top level hospital executives and also they perceived that nurses had no opportunity to participate in policy decisions.

Regarding to control over the practice setting, in this study more than half (54.8%) of the study participants, reported that they had control over nursing practice but the study done in Egypt Port

Said hospitals using cross sectional study design indicated that nurses had no control over the practice setting. In this study, the highest mean score for the components of the nurse work was 2.47 for nursing foundation for quality of care on the contrary the study done in Egypt in Port Said hospital using cross sectional study design indicated, the highest mean score for the components of the nurse work was for nurse manager ability, leadership and support of nurses (8). The difference might be due to study area difference.

The least mean score for the components of the nurse work environment was 2.27 for 'nurse manager ability, leadership and support of nurses' and the highest score was 2.47 for nursing foundation for quality of care. On the contrary, the study done in Israel stated that the least mean score for the components of the work environment was 2.47 for nurse participation in hospital affairs and the highest score was 3.00 for collaboration between physicians and nurses(3). This study revealed that, the staff nurses were not comfortable with the managerial and leadership ability the nurse manager.

The finding of this study showed that, no significant association was found between perceptions towards work environment and socio-demographic characteristics. The finding is similar with the finding from a study done in Japanese teaching hospital with cross sectional study design (23).

According to this study, controls over the practice setting, autonomy and nurse-physician relationships were attributable for the perceptions towards nurse work environment. Accordingly, nurses who had control over the practice setting had high perception on nurse work environment than nurses who had no control over the practice setting. Nurses who were autonomous tended to perceive nurse work environment high. Those nurses, who had good relationship with physicians perceived nurse work environment as high.

STRENGTH

There is no literature on this topic in Ethiopia.

LIMITATIONS

It was better if it would use mixed method (quantitative and qualitative method).

CONCLUSION AND RECOMMENDATION

CONCLUSION

Over all nurses' perceptions towards their work environment were low. Controls over the practice setting, autonomy and nurse-physician relationships were attributable for the perceptions towards nurse work environment. The findings from this study provided empirical support for the future theoretical structure of nursing work environment.

RECOMMENDATION

➢ To increase the level of perceptions towards nurse work environment among nurses, the hospital administrator should work on enhancing nurse-physician relationship, autonomy and control over the practice setting.

➢ JUMC administrator should give emphasis on nurse career development/clinical ladder opportunity and opportunity for advancement.

➢ Nursing director need to engage, guide and teach nurse managers to empower their staff by creating a healthy work environment.

➢ Nursing director need to provide healthy work environment to encourage the nurses' managers to involve their staff in decision making activities, to be more confident and aware to shape the departmental policy.

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ANNEX I: QUESTIONNAIRE

This questionnaire was designed for collecting data on assessment of nurses' perception concerning work environment and associated factors among nurses in Jimma University Medical Center. 2018G.C

Informed consent form

Dear respondent

How are you? I am here to enroll and distribute self-administered questionnaire for you. I am glad to inform you that you are one of the chosen study participants to participate in this study. The purpose of which is to assess nurses' perception concerning nurse work environment and associated factors among nurses in Jimma University Medical Center. 2018G.C

The information in this questionnaire will be kept confidential, will not be divulged to any one and only the research team will have access to the information you gave but your name and address will not be recorded or identified even by the research team.

This questionnaire will be filled only if you agree to take part in the study. However your genuine and true responses you give value for success of the study and also will help for better understanding of the problem that would eventually help in designing appropriate intervention to solve the problems and I sincerely ask you to give your genuine and true responses to the questions provided .The questionnaire contains two parts and will take not more than 30 minutes. So, would you like to participate in the study?

Yes/agree --------------No/disagree ------------

Thank you for your cooperation!

Date   ---------------Signature of the data collector to certify the informed consent verbally -------

PART I: SOCIO-DEMOGRAPHIC CHARACTERISTICS

1. Age: -------------

2. Sex: a) Male   b) Female

3. Ethnicity: Oromo   b) Amhara   c) Tigre   d) Wolayitta   e) Keffa

   f) Gurage   g) other: -----------------------

4. Religion: a) Orthodox   b) Muslim   c) Protestant   d) Catholic   f) others: ----------------

5. Marital status: a) Single   b) Married   c) Widowed   d) Divorced   e) Separated

6. Monthly income (in ETB):------------------

7. Educational status: a) Diploma   b) Bsc   c) Msc

8. Years' of experience: -----------------------------

9. Current job position: a) head nurse   b) staff nurse   c) supervisor   d) nurse director

10. Current work unit: a) Critical care unit   b) Emergency department   c) Medical
d) Surgical   e) Pediatric   f) Psychiatry   g) Ophthalmology   h) others: -------------------

11. Source of certificate: a) private   b) public

For each item in this section, please indicate the extent to which you agree that the following items are present in your current job. Indicate your degree of agreement by circling the appropriate number.

Part II: Control over the practice setting	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
1. Adequate support services allow me to spend time with my patients	1	2	3	4
2. Enough time and opportunity to discuss patient care problems with other nurses				
3. . Enough professional nurses on staff to provide quality patient care				
4. A nurse manager who is a good manager and leader				
5. Enough staff to get the work done				
6. Opportunity to in a specialized unit				
7. Patient assignments foster continuity of care				

Part III: Autonomy

1. Nursing controls its own practice	1	2	3	4
2. Freedom to make important patient care and work decisions				
3. Not being placed in a position of having to do things that are against my nursing judgment				
4. A nurse manager backs up the nursing staff in decision making even if the conflict is with a physician				

Part IV: Nurse-physician relationship				
1. Physicians and nurses have good working relationships				
2. Much teamwork between doctors and nurses				
3. Collaboration between nurses and physicians				
Part V: Nurse work index-revised scale	**1**	**2**	**3**	**4**
A supervisory staff that is supportive of nurses				
Supervisors use mistakes as learning opportunities, not criticism				
Praise and recognition for a job well done				
Active staff development/continuing education programs for nurses				
High standards of nursing care are expected by the administration				
A clear philosophy of nursing pervades the nursing environment				
Working with nurses that are clinically competent				
An active quality-assurance program				
A preceptor program for newly hired nurses				
Nursing care is based on nursing rather than a medical model				
Written up to date nursing care plans for all patients				
Use of nursing diagnosis				

Career development/clinical ladder opportunity				
Opportunity for staff nurses to participate in policy decisions				
A nurse in senior management is highly visible and accessible to staff				
A nurse director equal in power and authority to other top level hospital executives				
Opportunities for advancement				
Administration that listens and responds to employee concerns				
Staff nurses are involved in the internal governance of the hospital (e.g. practice and policy committees)				
Staff nurses have the opportunity to serve on hospital and nursing committees				
Nursing administrators consult with staff on daily problems and procedures				