

NURSES KNOWLEDGE AND PRACTICES TOWARD PRESSURE ULCER PREVENTION IN MEDICAL HOSPITAL, KOLKATA

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Abstract: Pressure ulcer lead to pain and discomfort for patients and also cause prolong illness, delay restoration, increase patient's hospital stay, and may lead to infirmity and even death. The purpose of this study was to assess the nurse's knowledge and practices towards pressure ulcer prevention. To check the association between nurses job experience and their knowledge and practices towards pressure ulcer prevention at Medical College Hospital, Kolkata. A cross sectional study among 253 nurses conducted in Medical College Hospital, Kolkata. The study participants were selected by convenience sampling technique. An adopted questionnaire distribute among study participants. Data entered and analyzed in SPSS version 21 for descriptive statistics and results presented in Graphs and Tables. Chi-Square test used to check the association between nurses job experience and their knowledge and practices. Nurses have poor knowledge (35.2%) regarding risk factors of pressure ulcer development, patient's position every two hourly (49%), knowledge about the use of the risk assessment scale for pressure ulcers was (37.2%), in order to give pressure ulcer prevention education to patient's and caregivers(36%). Nurses overall knowledge was only (8.3%) have good knowledge, (11.1%) have fair knowledge and (80.6%) have poor knowledge about pressure ulcer prevention (82.6%) have poor practices, (7.1%) have fair practices and (10.3%) have good practices of pressure ulcer prevention. Nurse's job experience has a significant association with their practices and knowledge toward pressure ulcer prevention. Nurses overall knowledge and practices toward pressure ulcer are poor. Working experience had a significant association with nurses Practices and knowledge at Lahore general hospital. So nurses need to get continuing education and training about pressure ulcer prevention that will enhance their knowledge and practices can be improved.

Keywords: Nurses, knowledge, practices, pressure ulcer, prevention, Hospital

INTRODUCTION

Pressure ulcers can be defined as when localized tissue get deprived of circulation due to soft tissue compressed between external surfaces and bony prominence for prolong time. Pressure ulcers have been labeled as one of the most expensive and physically debilitating complications in the 20th century. After cancer and heart diseases Pressure ulcers are the third most expensive disorder. A study

conduct in Jordanian, describe that the nurses have insufficient knowledge about pressure ulcer prevention as compared with national pressure ulcer advisory panel guidelines. Therefore it is important for all nurses to be aware of standards guidelines to prevent any complication associated with pressure ulcers to promote patient safety and better outcomes. patient suffer with pain and discomfort because of pressure ulcer and also cause prolong illness, delay



rehabilitation, increase patient's hospital stay, and may lead to disability and even death [4]. World stop pressure ulcer day showed that nearly 700,000 patients were affected by pressure ulcers each year. Around 186,617 patients develop a new pressure ulcer in acute care settings each year. This has shown that in the year January 2012 to December 2013 between 4 and 6% of patients in acute care settings and more than 5–10% of patients in acute care had no pressure ulcers. Pressure ulcers are accountable for 2% of preventable deaths.

Nurse's practices toward pressure ulcer prevention were not reliable because nurses prioritized it very low level that is because of their inadequate knowledge about the serious consequence of pressure ulcer complications. They had no access and up to date knowledge of evidence base practices. Now days if a patient developed a pressure ulcer during his hospitalization it will indicate the poor quality of nursing care. Although to prevent a patient from a pressure ulcers are the responsibility of all health care professional but primarily are the responsibility of those who are involved in direct patient care and nurses are forefronts for providing pressure ulcer prevention care. Nurses poor knowledge and skills in pressure ulcer prevention contributes significantly to the development



or worsening of pressure ulcers and this is may be lead to more complications, Therefore, nurses require regular training and education in this area of practice[8]. There is a gap between nurse's knowledge of pressure ulcer prevention and the utilization of this knowledge according to proper standards in their practices. Nurses have good knowledge regarding pressure ulcers but they have poor practices regarding pressure ulcers prevention. The code of conduct for nurses states that all nurses are obliged to maintain accurate and up to date patient records. According to study that nurses are unaware of current pressure ulcer prevention recommendation and practices they are follow traditional practices methods rather than on evidences base guidelines. Nurses did not implement their knowledge into their practices. The nurses are practicing wrong practices which are part of old methods and traditions, but it is not recommended from standards guidelines for pressure ulcer prevention. Furthermore nurses good knowledge regarding pressure ulcer prevention not only can improve the quality of nursing care but also within this reduce the patients duration of hospital stay and the number of patients suffering from this painful condition.

OBJECTIVE OF THE STUDY

- To assess the knowledge of nurses regarding pressure ulcers prevention
- To assess the nurses practices regarding pressure ulcers preventions

- To check association of nurses organizational stay (Job experience) with the knowledge, and practices of pressure ulcer prevention.

METHODOLOGY

Study design

Cross sectional study conducted in General Hospital Lahore

Sample size

The registered nurses working in General hospital Lahore involved in the study Target population. Total nurses 900 exclude 185 Head nurses, on medical leaves 5, and 20 on study leave so target population is 690 apply Slovenes' formula for sample technique. Sample size was 253.

Inclusion criteria

All staff nurses who are currently working in General Hospital Lahore

Exclusion criteria

Student nurses, midwifery, and those nurses who will not want to participate in the study

Instrument

The instrument for data collection used a validate questionnaire adopted from. The questionair consist of 3 sections. Section A consist of socio- demographic data. Section B consist of 20 knowledge assessment data and section 3 consist of 20 practice based questions.

**Data collection process**

Data collection starts from LGH after the approval of ethical review committee. Approval for data collection from LGH authority taken after the issue of acceptance letter of research proposal from the Head of department of Lahore school of Nursing. The findings of research disseminated and published without revealing any personal information. Written consent was obtained from the participants prior to data collection.

association of nurse's job experience with nurse's knowledge and practices.

Data analysis

Data entered in SPSS version 21; descriptive statistics used to describe the study population in relation to relevant variables. Chi square used to check the

RESULTS**Table-1: Demographic Information of the Participants**

Demographic information	Demographic data	Frequency	Percentage
Gender	Female	253	100.0
Marital status	Married	87	34.4
	Unmarried	166	65.6
Age	20-25 Years	44	17.4
	26-30 Years	133	52.6
	31-35 Years	48	19.0
	36-40 Years	28	11.1
	Total	253	100.0
Qualification of the participants	General Nursing Diploma + midwifery	195	77.1
	BSN / Post RN	51	20.2
	MSN	7	2.8
	Total	253	100.0



Job experience	< 1 Year	25	9.9
	1-5 Years	116	45.8
	6-10 Years	90	35.6
	Above 10 Years	22	8.7
	Total	253	100.0
Area of working	Adult medical ward	67	26.5
	Adult surgical ward	53	20.9
	Neuro surgical ward	40	15.8
	Neuro ICU	41	16.2
	Others (specify)	52	20.6
	Total	253	100.0



Table-2: knowledge of participants

Statement			Yes	No	Don't know	Mean	St.devi
01	Risk factors of pressure ulcer are immobility, incontinence, impaired nutrition and altered level of consciousness.	freq	89	159	5	1.67	.512
		%	35.2	62.8	2.0		
02	All hospitalized individuals at risk for pressure ulcers should have a systematic skin inspection at least daily and those in long term care at least once a week.	freq	92	146	15	1.70	.576
		%	36.2	57.7	5.9		
03	The first sign of pressure ulcer development is open sore	freq	108	94	51	1.77	.762
		%	42.7	37.2	20.2		
04	Hot water and soap may dry the skin and increase the risk for pressure ulcers	freq	103	94	56	1.81	.772
		%	40.7	37.2	22.1		
05	It is important to massage over bony prominence	freq	108	107	38	1.72	.709
		%	42.7	42.3	15.0		
06	All individuals should be assessed on admission to a hospital for risk of pressure ulcer development	Freq	157	69	27	1.49	.682
		%	62.1	27.3	10.7		
07	Patient skin should be clean and dry to prevent risk of pressure ulcer development	freq	172	58	23	1.41	.652
		%	68.0	22.9	9.1		
08	Adequate dietary intake of protein and calories should be maintained during illness	freq	181	61	11	1.33	.556
		%	71.5	24.1	4.3		
09	Vitamin C & E are important to maintain skin integrity	Freq	134	103	16	1.53	.614
		%	53.0	40.7	6.3		
10	Serum albumin test is the appropriate laboratory test for nutritional assessment of pressure ulcer patient	freq	75	119	59	1.94	.726
		%	29.6	47.0	23.3		
11	Persons confined to bed should be repositioned every three hours	freq	92	126	35	1.77	.673
		%	36.4	49.8	13.8		
12	A turning schedule should be written and placed at the bed	freq	152	74	27	1.51	.682
		%	60.1	29.2	10.7		



	side.						
13	The head of the bed should be maintained at the lowest degree of elevation (hopefully no higher than a 30 degree angle) consistent with medical condition	freq	139	70	44	1.62	.765
		%	54.9	27.7	17.4		
14	A person who cannot move him or herself should be repositioned every two hourly while sitting in a chair..	Freq	124	89	40	1.67	.735
		%	49.0	35.2	15.8		
15	Heel ulcer is prevented by putting pillow under the patient's leg.	freq	136	87	30	1.58	.695
		%	53.8	34.4	11.9		
16	Friction may occur when moving a person up in bed	freq	144	84	25	1.53	.670
		%	56.9	33.2	9.9		
17	A Braden scale is risk assessment tool used for assessing pressure ulcer	freq	94	104	55	1.85	.753
		%	37.2	41.1	21.7		
18	A low-humidity environment may predispose a person to pressure ulcers	freq	95	114	44	1.80	.715
		%	37.5	45.1	17.4		
19	For person who have incontinence should be clean at the time of soiling and at routine intervals.	freq	105	108	40	1.74	.714
		%	41.5	42.7	15.8		
20	Educational programs may reduce the incidence of pressure ulcers.	Freq	109	101	43	1.74	.731
		%	43.1	39.9	17.0		



Table-3: practices of the participants

S#	Statement		Always	Sometime	Never	Mean	St.devi
01	I observe how nurses assess risk factors for pressure ulcer development.	Freq	51	180	22	1.89	.526
		%	20.2	71.1	8.7		
02	I identify common contributing factors for pressure ulcer development by periodical assessment of patient's skin always	Freq	31	187	35	2.02	.512
		%	12.3	73.9	13.8		
03	I do skin assessment guided by a standard nursing care available in my hospital	Freq	35	101	117	2.32	.705
		%	13.8	39.9	46.2		
04	I use a assessment scale to assess pressure ulcer	Freq	42	70	141	2.39	.757
		%	16.6	27.7	55.7		
05	I document all data related to pressure ulcer assessment	Freq	57	80	116	2.23	.795
		%	22.5	31.6	45.8		
06	I assess and provide management of pain in the patients who experienced pain in any cause	Freq	63	126	64	2.00	.710
		%	24.9	49.8	25.3		
07	I perform skin care as a routine work of unit	Freq	91	130	32	1.93	.723
		%	36.0	51.4	12.6		
08	I place the pillow under patients leg to prevent heel ulcer	Freq	133	103	17	1.54	.620
		%	52.6	40.7	6.7		
09	I use or advice care givers to use cream or oils on patients skin in order to prevent from urine , stool or wound drainage	Freq	59	113	81	1.77	.658
		%	23.3	44.7	32.0		
10	I pay more attention to pressure	Freq	80	134	39	2.01	.782



	points during cleansing	%	31.6	53.0	39		
11	I perform lab test for assessing nutritional status followed by physicians instruction	Freq	136	35	82	2.09	.740
		%	53.8	13.8	32.4		
12	I provide vitamins and food for patients who are malnourished	Freq	80	134	39	1.84	.668
		%	31.6	53.0	15.4		
13	I monitor a protein and calories diet in patient who is bed ridden.	Freq	136	35	82	1.81	.655
		%	53.8	13.8	32.4		
14	I avoid dragging the patients during repositioning	Freq	63	125	65		2.01
		%	24.9	49.4	25.7		
15	I use special mattress to prevent pressure loadings, such as foam, air	Freq	67	94	92	2.10	.788
		%	26.5	37.2	36.4		
16	I avoid massage over patients bony prominence to prevent pressure ulcer formation	Freq	55	106	92	2.15	.750
		%	21.7	41.9	36.4		
17	I turn the patient's position every tw0 hourly	Freq	115	78	60	1.93	.737
		%	45.5	30.8	23.7		
18	I use air bed for patients who is at high risk for pressure ulcer formation followed by physician's prescription	Freq	59	135	59		
		%	23.3	53.4	23.3		
19	I always attend seminars for pressure ulcer prevention.	Freq	40	148	65	2.10	.638
		%	15.8	58.5	25.7		
20	I give advice to the patient or care giver regarding pressure ulcer preventive care before discharge the patient from a hospital	Freq	57	157	39	1.93	.613
		%	22.5	62.1	15.4		

SECTION IV

Knowledge and practice score

The mean knowledge score of the nurses calculated to be 9.57 ± 3.27 and the mean practice score was 5.29 ± 5.38 . And the level of knowledge was good in 8.3% and fair in 11.1%, poor in 80.6% participants.

Table-4: Knowledge and practice score

S#	Statistics	Total knowledge score	Total practice score
01	Mean	9.57	5.29
02	Median	10.00	4.00
03	Mode	10	0
04	St. Devi	3.275	5.38

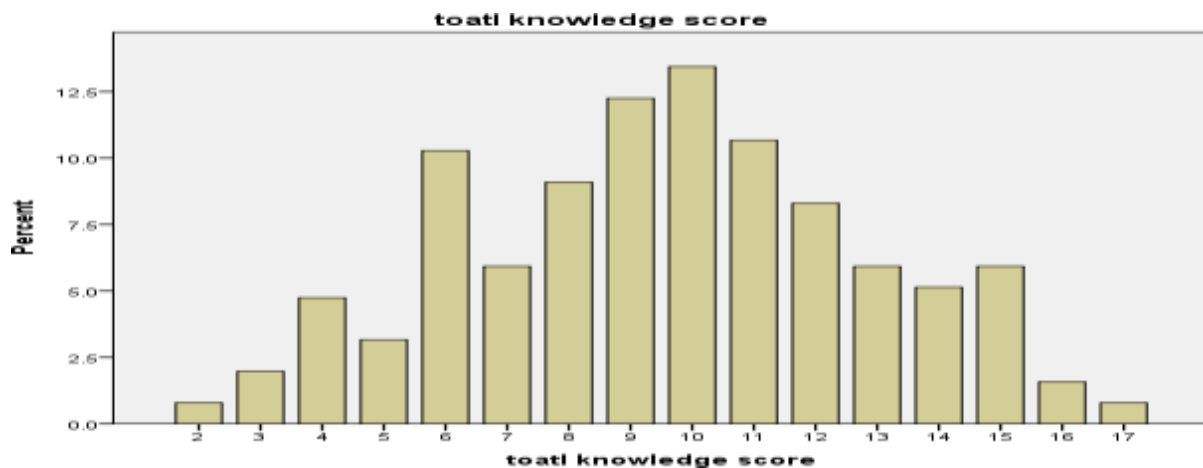


Fig-1: Total knowledge score1

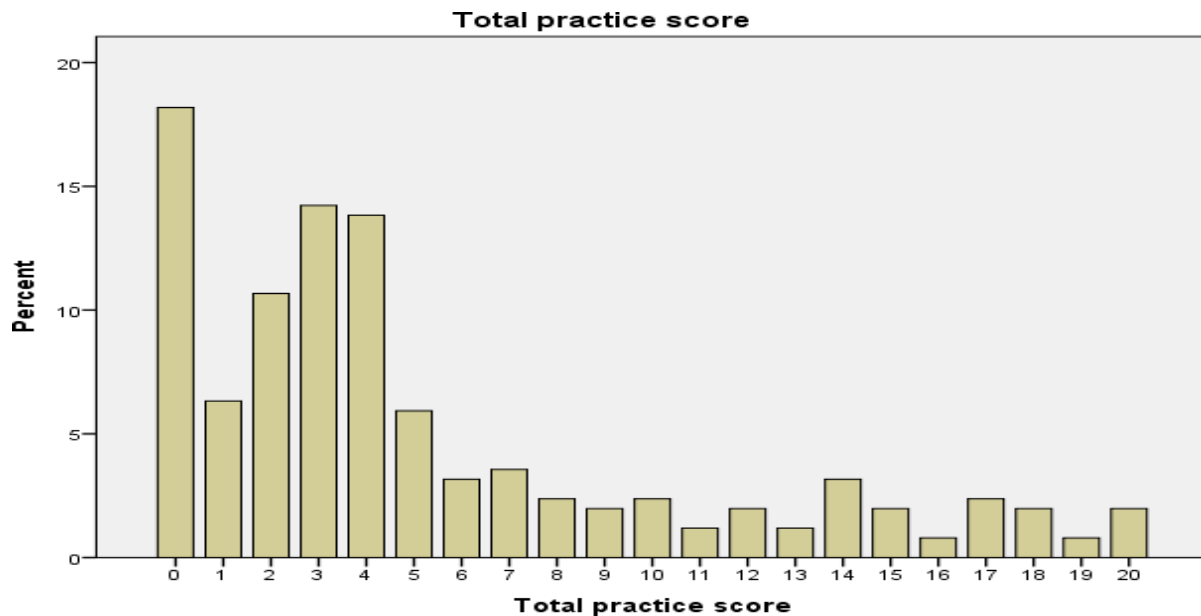


Fig-2: Total practice

Table-5: Knowledge and practice score frequency distribution

S#	Variable		Poor	Fair	Good	Mean	St. deviation
01	Knowledge	freq	204	28	21	2.72	.606
		%	80.6	11.1	8.3		
02	Practice	freq	209	18	26	2.72	.638
		%	82.6	7.1	10.3		



CHI SQUARE TEST

Table-6: Association among nurse's job experience and their practices of pressure ulcer

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	a 127.926	96	.016
Likelihood Ratio	129.537	96	.013
Linear-by-Linear Association	.107	1	.744
N of Valid Cases	253		

a. 118 cells (89.4%) have expected count less than 5. The minimum expected count is .09.

Significant association between nurses job experience and their practices toward pressure ulcer prevention $p = .016$.

Table-7: Association among nurses job experience and their knowledge of pressure ulcer

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	151.430 ^a	93	.000
Likelihood Ratio	136.130	93	.002
Linear-by-Linear Association	.677	1	.410
N of Valid Cases	253		

By applying the chi-square test there was significant association found between job experience and nurses knowledge of pressure ulcer $p = .000$

DICUSSION

Study findings revealed that majority of the study participants were within the age of 26-30 years (52.57%). (18.97%) were at 48 year of age and least age group was (11.07%)

between 36-40 years of age. This study results show that there is also a significant relationship among nurses job experience and their knowledge and practices regarding pressure ulcer preventive measures. Another study of Nigeria revealed that there is a significant association of nurses job experience with their knowledge and practices toward pressure ulcer prevention. A study showed the results that



30.77% of the nurses had good knowledge About 25% had average knowledge and while 25 had poor knowledge (<50 score). But in this study results shows that Nurses overall knowledge was only (8.3%) have good knowledge, (11.1%) have fair knowledge and (80.6%) have poor knowledge about pressure ulcer prevention.

In this study results that nurses have poor knowledge (35.2%) regarding risk factors of pressure ulcer development, patient's position every two hourly (49%), but in contrast another study conducted in

Bangladesh which result shows that nurse's knowledge about factors related to pressure ulcer, was at very low to low level. But the study of Uganda revealed that nurses knowledge about frequent patient positioning can protect patient from pressure ulcers was (98.2%), risk factors which can cause pressure ulcer in bedridden patients was 92.9% , prolong positioning 83.9% [6].

According to Bangladesh study results knowledge about the use of the risk assessment scale fore pressure ulcers was only 12.1% [14], and in this study results it was (37.2%). Even though study shows that our result regarding Braden scale are better as compared with Bangladesh study results but fact is that nurses were not have sufficient knowledge about the use of advance measures of pressure ulcer prevention. According to the findings, nurses' levels of knowledge were insufficient. Using the same questionnaire previously assessed oher critical care nurses' knowledge about pressure ulcers, similarly finding that critical care nurses were not knowledgeable about pressure ulcers.

This study finding shows that nurses practices are poor(36%) in order to give pressure ulcer prevention education to patient's and caregivers but the study conducted in Aydr referral hospital result shows that



nurses practices regarding education of patients and care givers were 90.1% which was much higher than us.

Participants of this study considered that massaging over bony prominence is an important part of care to prevent pressure ulcers. The other study conducted in other parts of India describe that nurses considered that massaging is an important part of pressure ulcer prevention care. However, the participants explained massage as a preventive intervention although the evidence advice against massage. The study conducted in other parts of India result found that what nurses mostly not practiced to prevent Pressure ulcer that is Attending seminars to prevent Pressure ulcer (49.7%), using assessment scale to assess PU (56.2%) and using air bed for at high risk patient (44.1%), From this current study one of what mostly nurses never do is documentation of all data related to Pressure ulcer development (42.1%). But in contrast this study revealed the results regarding nurses practices of pressure ulcer prevention that(16.6%) use assessment scale, that is very low than nurses of other hospitals in Kolkata, nurses who using air mattress for patients who are at high risk for pressure ulcer development(23.3%), and only (22.5%) nurses document all data regarding to pressure ulcer assessment which is even lower then Nurses of other hospitals of Kolkata; nurses practices there were only (15.8%) nurses who attend seminars about pressure ulcer prevention. Overall nurse's practices toward pressure ulcer prevention were very lower than the other study results.

LIMITATIONS, STRENGTH AND IMPLICATIONS OF THE SUDY

LIMITATIONS OF THE STUDY

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The data are from self-report questionnaires which may not accurately reflect clinical practice (observational method was selective)

- Cross sectional method of the study used
- This study conducted in just one public hospital and did not involve the private hospitals.

STRENGTH OF THE STUDY

- This study provide the current base line data of nurses knowledge and practices for pressure ulcer prevention which will be helpful for improvement of nursing care regarding pressure ulcer prevention in medical college hospital.
- A valid questionnaire used for this study.



CONCLUSIONS:

This study was conducted to assess level of nurses' knowledge, and practice towards pressure ulcer prevention. Generally, the study showed that: 1. Nurses' overall level of knowledge was poor regarding pressure ulcer prevention 2. Nurses' overall practice regarding pressure ulcer prevention was poor. 3. Working experience had a significant association with nurses Practices and knowledge at medical college hospital. Education can bring a change in individual behavior so change in knowledge can influence the practices. So nurses need to get continuing education and training about pressure ulcer prevention that will enhance their knowledge and practices can be improved. Further researches about pressure ulcer prevention are needed.

RECOMMENDATION

- Training programs should be conducted about pressure ulcer prevention for nurses who are working in Medical college hospital.
- Results of the study should be disseminated and shared with the administration including nurse administrator, hospital administration.
- Knowledge of nurses regarding pressure ulcer prevention not only enough without utilization of standards protocols into practices while caring of patients.

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REFERENCES

1. Black, J., Baharestani, M. M., Cuddigan, J., Dorner, B., Edsberg, L., Langemo, D., . . . Taler, G. (2007). National Pressure Ulcer Advisory Panel's updated pressure ulcer staging system. *Advances in skin & wound care*, 20(5), 269-274.
2. Burdette-Taylor, S. R., & Kass, J. (2012). Heel ulcers in critical care units: a major pressure problem. *Critical care nursing quarterly*, 25(2), 41- 53.
3. Qaddumi, J., & Khawaldeh, A. (2014). Pressure ulcer prevention knowledge among Jordanian nurses: a cross-sectional study. *BMC nursing*, 13(1), 6.
4. Nuru, N., Zewdu, F., Amsalu, S., & Mehretie, Y. (2015). Knowledge and practice of nurses towards prevention of pressure ulcer and associated factors in Gondar University Hospital, Northwest Ethiopia. *BMC nursing*, 14(1), 34.
5. Dilie, A., & Mengistu, D. (2015). Assessment of Nurses' Knowledge, Attitude, and Perceived Barriers to Expressed Pressure Ulcer Prevention Practice in Addis Ababa Government Hospitals, Addis Ababa, Ethiopia, 2015. *Advances in Nursing*, 2015.
6. Mwebaza, I., Katende, G., Groves, S., & Nankumbi, J. (2014). Nurses' knowledge, practices, and barriers in care of patients with pressure ulcers in a ugandan teaching hospital. *Nursing research and practice*, 2014