

# “A study to assess the impact of a designed skin care bundle protocol on nurse’s knowledge at selected intensive care units in SMI hospital Patel Nagar Dehradun., Uttarakhand. ”

<sup>1</sup>BIJAYATA SHRESTHA, <sup>2</sup>PRAVEEN KUMAR SHARMA

<sup>1</sup> Professor Medical Surgical Nursing ,<sup>2</sup>Professor  
Child Health Nursing, Shree Guru Ram Rai University, Dehradun, India  
Email – pravubiju@gmail.com

**Abstract:** **Background:** Skin care bundle protocol is used to treat or to prevent the bed sores, The skin Care Bundle is a powerful tool as it defines and ties best practices together. The bundle also makes the actual process of preventing pressure ulcers visible to all. This minimizes variation in care practices. The aim of this study was to improve the nurse’s knowledge regarding designed skin care bundle protocol in intensive care unit. **METHODOLOGY:** The nature of study was descriptive. This was conducted in intensive care units (i.e., MICU, SICU, CCU, PICU) of Shri Mahant Indires Hospital, Dehradun. The data was collected from the 100 ICU staff Nurses. A structured questionnaire was developed as a tool for data collection. **CONCLUSION:** In this study the investigator reveals that there are very less staff (5%) who were having inadequate knowledge regarding the impact of skin care bundle protocol but still may need the awareness programme. The investigator concludes that there were much subjects with adequate and moderate knowledge regarding the impact of skin care bundle protocol.

**Keywords:** designed skin care bundle protocol, knowledge, the staff nurses of selected intensive care units

## 1. INTRODUCTION:

The SKIN Care Bundle is a powerful tool as it defines and ties best practices together. The bundle also makes the actual process of preventing pressure ulcers visible to all. This minimizes variation in care practices. A process is a series of actions which are required in order to achieve a desired outcome (such as a reduction in the number of pressure ulcers). Reliably delivering all elements of the care bundle at every care opportunity, will improve the pressure area care that a person receives. This will have impact on improving care outcomes.

WHITLOCK JET AL 2011

### 1.1. OBJECTIVES:

1. To assess the level of knowledge of staff nurses regarding skin care bundle protocol by using a structured knowledge questionnaire.
2. To find the association between knowledge score and selected demographic variables of staff nurses regarding designed skin care bundle protocol

### 1.2. HYPOTHESIS

**H<sub>1</sub>** - There will be a significant association between knowledge scores and selected demographic variables of nurses regarding designed skin care bundle protocol.

## 2. LITERATURE REVIEW:

**DEEPTHITHANKANCHAN DR. D. Y. PATIL HOSPITAL , KOLHAPUR INDIA. 2016.** The study was conducted to assess the knowledge and practice regarding the bed sore, among the staff nurses at selected hospitals of Kolhapur, the 100 staff nurses was taken from the different hospitals of the Kolhapur, India. In which majority of the staff nurses (88) belonged to 20 to 30 years (88%) and 01 staff Nurse belonged to 41-50 years (1%). Out of 100 Nurses majority 63 nurses have diploma i.e G.N.M qualification(63%) and 19 have P.B.B.Sc Degree(19%). that maximum number of staff nurses 52 (52%) had average knowledge, while minimum number of staff nurses 05(5%) had poor knowledge. The 85% nurses had average knowledge regarding the practice of prevention of pressure sore while minimum number of staff nurses 07 (7%) had poor knowledge. after analysis of knowledge scores among staff nurses regarding prevention of pressure sore in patient; mean was 12.43 ,median was 13 ,mode was 15, SD was 2.47 and range was 12.

**RAJSHAHI MEDICAL COLLEGE HOSPITAL, BANGLADESH 2015.** This is a descriptive co relational study aimed to examine nurses' knowledge, attitude, and practice regarding pressure ulcer prevention in Bangladesh. It also examines the relationships between nurses' knowledge, attitude, and practice with respect to pressure ulcer prevention. The subjects were nurses working at Rajshahi Medical College Hospital in Bangladesh. Ninety one nurses working in pressure ulcer related wards returned the questionnaires (an 84.26% response rate). Data were analyzed by descriptive and Pearson product-moment correlation statistics. The findings showed that nurses had a very low level of knowledge ( $M = 57.79\%$ ,  $SD = 9.2\%$ ), neutral level of attitudes ( $M = 78.31\%$ ,  $SD = 6.61\%$ ), and a moderate level of practice ( $M = 77.55\%$ ,  $SD = 11.0\%$ ) There was a positive correlation between nurses' attitudes and practice ( $r = .34, p < .01$ ). However, no significant correlation was found between knowledge and attitude ( $r = .14, p > .05$ ), and knowledge and practice regarding pressure ulcer prevention ( $r = .14, p > .05$ ). These findings suggest that nurses need to develop positive attitudes and to increase their knowledge of pressure ulcer prevention in order to improve nursing practice in this area.

**GONDAR UNIVERSITY HOSPITAL, NORTH-WEST ETHIOPIA 2014,** An institution-based cross-sectional survey was conducted from March 15 - April 10, 2014 among 248 nurses in Gondar University hospital. A pretested and structured self-administered questionnaire was used for data collection. Data were entered using EPI info version 3.5.3 statistical software and analyzed using SPSS version 20 statistical package. Descriptive statistics was used to describe the study population in relation to relevant variables. Bivariate and multivariate logistic regression was also carried out to see the effect of each independent variable on the dependent variable. Nearly half (54.4 %) of the nurses had good knowledge; similarly 48.4 % of them had good practice on prevention of pressure ulcer. Educational status [Adjusted Odds Ratio (AOR) = 2.4, 95 % CI (1.39-4.15)], work experience [AOR = 4.8, 95 % CI (1.31-10.62)] and having formal training [AOR = 4.1, 95 % CI (1.29-9.92)] were significantly associated with knowledge on prevention of pressure ulcer. While, satisfaction with nursing leadership [AOR = 1.9, 95 % CI (1.04-3.82)], staff shortage [AOR = 0.07, 95 % CI (0.03-0.13)] and inadequate facilities and equipment [AOR = 0.4, 95 % CI (0.19-0.83)] were found to be significantly associated with the designed skin care bundle protocol.

### **3. METHOD:**

#### **RESEARCH APPROACH**

In view of the nature of the problem of the study and to establish the objectives of the study and Quantitative research approach was used to identify the knowledge regarding prevention of pressure sore among the staff nurses of a selected ICU ward in SMI Hospital Dehradun.

#### **RESEARCH DESIGN**

The research design is selected for this study is descriptive research design.

#### **SETTING OF THE STUDY:**

The study was conducted in Shri Mahant Indresh Hospital Dehradun

#### **POPULATION:**

In the present study, the target population is all ICU nurses of Shri Mahant Indresh Hospital Dehradun.

#### **SAMPLE:**

A sample consists of this study are consists of those nurses who are working in ICU of Shri Mahant Indresh Hospital Patel Nagar Dehradun

#### **SAMPLE SIZE:**

In this study the total sample size is 100 selected ICU staff nurses from Shri Mahant Indresh Hospital Patel Nagar Dehradun

#### **SAMPLING TECHNIQUE:**

In this study, a non-probability purposive sampling technique is used for sampling

#### **DEVELOPMENT OF TOOLS**

The tool was constructed to assess the knowledge staff nurses regarding the skin care bundle protocol, extensive review of literature i.e, Books, journals, internet expert opinion, the investigator professional experience was provided for the construction of structured tool.

- **Data collection instrument:**

The instrument used for data collection consists of two sections as follows:

- **Section A:** Demographic data which includes age, gender, religion, educational status, past experience, type of family.
- **Section B:** it consists of 40 items of objective type questions related to knowledge about skin care bundle protocol.

**PLAN FOR DATA ANALYSIS**

The collected data was analysed by using both descriptive and inferential statistics on the basis of objectives and hypothesis of the study. Master sheet prepared by investigator to analysis the data. The data analysed in terms of descriptive (mean, standard deviation) and Inferential statistics (split half reliability).

**Descriptive statistics**

Frequency, percentage mean and standard deviation were used to assess the demographic variables with the impact of skin care bundle protocol.

**Inferential statistics**

Inferential statistics was used by split half method to assess the knowledge of impact of skin care bundle protocol with the demographic variables (Age, Gender, Professional qualification, Area of work, working Experience, type of family, and religious)

**ANALYSIS:**

**The Data Is Presented Under Following Sections.**

**SECTION A: -** Percentage wise distribution of demographic characteristics of sample.

**SECTION B: -** Distribution of samples with their level of knowledge.

**SECTION C: -** Association between Knowledge with selected demographic variables

**Section A**

Table-1: Frequency and percentage distribution of staff nurses according to socio demographic data.

(N=100)

S.N	Demographic variables	Frequency (f)	Percentage(%)
1.	<b>Age</b>		
	20-30 yrs	88	88%
	31-40yrs	11	11%
	41-50yrs	1	1%
2.	<b>Gender</b>		
	Male	10	10%
	Female	90	90%
3.	<b>Professional Qualification</b>		
	G.N.M (N)	63	63%
	B.Sc (N)	18	18%
	P,B.B.Sc.(N)	19	19%
4.	<b>Area of Work</b>		
	MICU	30	30%
	SICU	30	30%
	CCU	25	25%
	PICU	15	15%
5.	<b>Total years of Professional Experience</b>		
	<1-5 years	80	80%
	6-10 years	17	17%
	11-15years	01	01%
	16-20years	02	02%
6.	<b>Type of family</b>		
	Joint	65	65%
	Nuclear	35	35%
7.	<b>Religion</b>		
	Hindu	60	60%

	Muslim	10	10%
	Sikh	08	08%
	Christian	22	22

**Section: B**

**Table 2: -Frequency and Percentage (%) distribution of knowledge scores of staff nurses on impact of skin care bundle protocol. (N=100)**

Level of knowledge	Frequency(f)	Percentage (%)
ADEQUATE (76%-100%)	43	43%
MODERATE (51%-75%)	52	52%
INADEQUATE (<50%)	05	05%
<b>TOTAL</b>	<b>100</b>	<b>100%</b>

Table 2:- Presents that maximum number of staff nurses 52 (52%) have moderate knowledge, and 43 (43%) staff nurses have adequate knowledge, while minimum number of staff nurses 05(5%) had poor knowledge.

**Table 3:-Calculated mean, median, mode, and SD of knowledge scores among staff nurses regarding impact of skin care bundle protocol.**

**N=100**

MEAN	MEDIAN	MODE	STANDARD DEVIATION
12.43	13	15	2.47

**Table 3:-**The data represented shows that after analysis of knowledge scores among staff nurses regarding impact of skin care bundle protocol; mean was 12.43 ,median was 13 ,mode was 15, and SD was 2.47 .

**Section C:**

**Table 4: Association between Knowledge with selected demographic variables**

characteristics	Demographic variables	Adequate 76%-100%		Moderate 50%- 75%		Inadequate <50%		Degr e of freedo m	Calcula ted value/ chi square	Table value	level of signific ance
		F	%	f	%	f	%				
Age group in years	20 - 30	38	38%	46	46%	4	4%	2	0.3192	5.99	NS
	31 - 40	4	4%	6	6%	1	1%				
	41 – 50	1	1%	0	0	0	0				
Gender	Female	35	35%	51	51%	4	4%	2	8.0391	5.99	S
	Male	8	8%	1	1%	1	1%				
Professional Qualification	G.N.M	28	28%	34	34%	2	2%	2	5.5941	5.99	NS
	B.Sc(N)	11	11%	7	7%	0	0				
	P.B.BSc (N)	4	4%	11	11%	3	3%				
Area of work	MICU	9	9%	20	20%	1	1%	3	13.9127	7.82	S
	SICU	8	8%	21	21%	1	1%				
	CCU	15	15%	8	8%	2	2%				
	PICU	11	11%	3	3%	1	1%				

<b>Total years of Professional Experience</b>	<b>&lt;1 to 5 years</b>	32	32%	45	45%	03	3%	<b>1</b>	<b>1.4688</b>	<b>3.84</b>	<b>NS</b>
	<b>6-10 years</b>	10	10%	7	7%	0	0				
	<b>11-15 years</b>	1	1%	0	0	0	0				
	<b>16-20 years</b>	0	0	0	0	2	2%				
<b>Type of family</b>	<b>Joint</b>	20	20%	42	42%	3	3%	<b>2</b>	<b>12.1996</b>	<b>5.99</b>	<b>S</b>
	<b>Nuclear</b>	23	23%	10	10%	2	2%				
<b>Religious</b>	<b>Hindu</b>	21	21%	35	35%	4	4%	<b>3</b>	<b>4.1022</b>	<b>7.82</b>	<b>NS</b>
	<b>Muslim</b>	6	6%	4	4%	0	0				
	<b>Sikh</b>	4	4%	4	4%	0	0				
	<b>Christian</b>	12	12%	9	9%	1	1%				

- Not Significant  $p > 0.05$
- Significant at  $p < 0.05$

## Major findings of the study

### Section A: percentage wise distribution of demographic characteristics of samples.

**Age** In this study, majority of percentage wise distribution of ICU staff nurses in relation to their age depicts that higher percentage (88%) were in the age group of 20-30 years, in the age group of 31-40 years were (11%) and only one staff (1%) comes between the 40- 50 years of age group.

### Gender

In this study, percentage wise distribution of ICU staff nurses in relation to their Gender shows higher percentage 90% are females and only 10% were male staff.

### Professional Qualification

In this study, percentage wise distribution of staff Nurses in relation to their education, in which out of 100 Nurses majority 63 nurses have diploma i.e G.N.M qualification(63%), 18 of nurses have B.Sc degree (18%)and 19 have P.B.B.Sc Degree(19%).

### Area of working

In this study, percentage wise distribution of staff Nurses in relation to their working areas 30 staff nurses are working in MICU(30%) 30 staff nurses are working in SICUs(30%) and 25staff are working the CUU (25%) other 15% staff are working in the PICU (15)

### Total year of experience

In this study percentage distribution of working experiences, majority staff nurses 80% have <1 to 5 years of total experience, 17% of staff nurses have 6 to 10 year of working experience, only 1% staff nurse has a total experience of between 11-15 years and 2% of staff have the 16-20 years of working experience.

### Type of family

In this study percentage wise distribution of staff Nurses in relation with the type of family the majority of Nurses belongs to joint family which compromises 65 (65%) of staff and the remaining 35 (35%) staff comes from the nuclear families.

### Religious

In this study, the last demographic variable which was religious, shows that the staff comes from the different religions so the percentage wise distribution of staff nurses in relation of their religion are 60 i.e, 60% of staff follows the Hindu religion, 10 staff i.e, 10% of total staff are Muslim and remain staff are from Sikh are 8 i.e,8% and Christian are 22 i.e, 22%.

## Section B:

### Distribution of samples with their level of knowledge.

Findings related to level of knowledge 42 (42%) staff nurses have adequate knowledge, 52 (52%) staff nurses have the moderate knowledge and 5 (5%) inadequate knowledge.

After analysis of knowledge scores among staff nurses regarding impact of skin care bundle protocol; mean was 12.43 median was 13 ,mode was 15, and SD was 2.47 .

The findings of this study are supported by the descriptive co-relational study conducted by Md Shariful Islam in Bangladesh. Overall nurses knowledge regarding pressure ulcer prevention was very low ( $M=57.79$ ),  $SD=9.20$ . On the other hand it was found that the nurses practice regarding pressure ulcer prevention was at moderate level  $=77.55\%$ ,  $SD=11.0$ . The levels of knowledge did not affect the practice on prevention of pressure sores:

## SECTION C:

### Association between Knowledge with selected demographic variables

#### Age

Data represented that calculated chi-square value **0.3192** is less than table value **5.99** at 0.05% of significant value. Therefore there is non-significant association between the level of knowledge with their age, so it is being concluded that null hypothesis is accepted and research hypothesis is rejected.

#### Gender

Data represented that calculated chi-square value **8.0391** is more than table value **5.99** at 0.05% of significant value. Therefore there is significant association between level of knowledge with their Gender, so it can be concluded that null hypothesis is rejected and research hypothesis is accepted.

#### Professional Qualification

Data represented that calculated chi-square value **5.5941** is less than table value **5.99** at 0.05% of significant value. Therefore there is non-significant association between the level of knowledge with their professional qualification, so it is being concluded that null hypothesis is accepted and research hypothesis is rejected.

#### Area of work

Data represented that calculated chi-square value **13.9127** more than table value **7.82** at 0.05% of significant value. Therefore there is significant association between level of knowledge with their Area of work, so it can be concluded that null hypothesis is rejected and research hypothesis is accepted.

#### Total years of Professional Experience

Data represented that calculated chi-square value **1.4688** is less than table value **3.84** at 0.05% of significant value. Therefore there is non-significant association between the level of knowledge with their Total years of Professional Experience, so it is being concluded that null hypothesis is accepted and research hypothesis is rejected.

#### Type of family

Data represented that calculated chi-square value **12.1996** is more than table value **5.99** at 0.05% of significant value. Therefore there is significant association between level of knowledge with their type of family, so it can be concluded that null hypothesis is rejected and research hypothesis is accepted.

#### Religious

Data represented that calculated chi-square value **4.1022** is less than table value **7.82** at 0.05% of significant value. Therefore there is non-significant association between the level of knowledge with their religious, so it is being concluded that null hypothesis is accepted and research hypothesis is rejected.

**Supported studies :** The findings of this study are supported by the study conducted by Nurhusien Nuru et al in Ethiopia. Nearly half (54.4 %) of the nurses had good knowledge; similarly 48.4 % of them had good practice on prevention of pressure ulcer. Educational status [Adjusted Odds Ratio (AOR)=2.4, 95 % CI (1.39-4.15)], work experience [AOR=4.8, 95 % CI (1.31-10.62)] and having formal training [AOR=4.1, 95 % CI (1.29-9.92)] were significantly associated with knowledge on skin care bundle protocol. Thus there is an association of selected demographic variables with the knowledge regarding the skin care bundle protocol.

## 4. RECOMMENDATIONS:

Recommendations for further research include:

- A similar study can be replicated with larger samples size and in various other settings for better generalization.
- Similar study can be conducted to check the practice and can provide structured teaching programme regarding the impact of skin care bundle protocol.
- A study can be conducted among other staff nurses who are working outside the ICU areas.
- A similar study can be done for longer duration.

## 5. CONCLUSION:

Based on the findings of the study, following conclusions were drawn:

- Knowledge regarding the impact of skin bundle protocol in selected ICU staff nurses is adequate and needs an intervention.
- Study reveals that there was a association between the knowledge of nurses with demographic variables. There was significant association between the knowledge and like Age, gender, qualification, area of work, total year of experiences, religious and type of family.
- In this study the investigator reveals that there are very less staff (5%) who were having inadequate knowledge regarding the impact of skin care bundle protocol but still may need the awareness programme.
- The investigator concludes that there were much subjects with adequate and moderate knowledge regarding the impact of skin care bundle protocol.

## **REFERENCES:**

### **BOOK REFERENCES**

1. Black JM, Hawks JH. Medical Surgical Nursing 8<sup>th</sup> edition. Missouri Elsemere. 2009.
2. Best Bauman John, W, Kohn James. V, (1999). Research and education. (7<sup>th</sup> edition). New Delh. prentice Hall of India.
3. Polit. D.F, Hunger, B.P. (2008). Nursing Research Principles and Methods (8<sup>th</sup> edition), Philadelphia, J.B Lippincott Company.
4. Perry. Potter, "Fundamental of nursing" 7<sup>th</sup> edition, 2009, Elsevier Missouri, Page no-1228-1231.
5. Bradon J Willhelmi, "Pressure Ulcers, Surgical treatment and Principles" southern illinois university school of medicine, 2010.
6. Nettina, Sandra M. (2001). The Lippincott Manual of Nursing practice, 7<sup>th</sup> edition. Philadelphia. Lippincott, Williams and Wikins.
7. Gurumani. N. (2004). An introduction to Biostatistics. (2<sup>nd</sup> edition). Chennai. MJP publishers.
8. Larcher Calirj MH, Miyasaki MY Piper B, "Brazil Ostomy Wound Management" Ribera Petro School of nursing, Nursing University of Sao Paulo, Ribeiro Preto, Sao, 2003 mar:49(3):54-63
9. Chaves LM, Grypdonck MH, Defloor T, "Protocols for pressure ulcer prevention: are they evidence-based?", University Medical Centre Utrecht, Utrecht University, Utrecht, The Netherlands, 2010 Mar;66(3):562-72.
10. Sinclair L et.al, "Wound Ostomy Continence Nursing" Master's Nursing Programme University of Calgary, J, 2004 Jan-Feb:31(1):43-50
11. Polit Denise F, Beck Tatano Cheryl. Nursing Research Generating and Assessing Evidence for nursing Practices. 8<sup>th</sup> ed. 2006.
12. Krause T, Anders J, Von Renteln W. The article for qualitative Research. 2004; 98(9-10):769-74.
13. Polit DF. Beck CT. Nursing Research: Generating and assessing evidence for nursing practice; 8<sup>th</sup> edition., New Delhi: Wolters Kluwer; 2008
14. Basavanthappa BT. Nursing research. 2<sup>nd</sup> ed, New Delhi; Jaypee Brothers Medical Publishers; 2000.
15. Gupta S.P, (2008) statistical Methods. (37<sup>th</sup> edition). New Delhi. Sultan Chand and Soris Education publishers

### **JOURNALS REFERENCES:**

1. Moore Z, Price P. Nurse's attitudes, behaviours and perceived barriers towards pressure ulcer prevention. Journal of clinical Nursing. 2004; 13(8):942-951.
2. Abd-Allah, S.M. (2000): Assuring quality care through a managerial in service training program for head nurses working in Assiut University Hospital. DNS Thesis of Nursing Service Administration, Assiut University.
3. Aljezawi. M. (2011): Exploring preventive interventions and risk factors of hospital-acquired pressure ulcers: a retrospective matched case-control design, published doctorate thesis, De Montfort University, Leicester, UK
4. Panagiotopoulou K, Ker SM. Pressure area care: An exploration of Greek Nurse's Knowledge and practice. Journal of Advanced Nursing. 2002; 40(3).
5. Baldelli, P and Paciella, M. (2008): Creation and implementation of a pressure ulcer prevention bundle improves patient outcomes. Am J Med Qual. 2008; 23(2):136-142
6. Clark HF, Bradely C, Whitock, Handfield, Gundry S. Pressure ulcers: implementation of evidence based nursing practice. Journal of advanced nursing. 2005; 49(6):578-90.
7. Banjar, H.B., Mahran, S.M and Ali, G.M. (2012): Effectiveness of prevention and management of pressure ulcers, as " a patient safety issues" among bed ridden Patients at University Hospital in Jeddah, Saudi Arabia. Journal of American Science ; 8(6).
8. Kallman U, Suserud BO. Knowledge, attitude and practice among staff nurses concerning pressure ulcer prevention and treatment. A Swedish journal of Dermatology. 2009; 23(2):334-41.

9. Chaiken, N.(2012): Reduction of Sacral Pressure Ulcers in the Intensive Care Unit Using a Silicone Border Foam Dressing. *Journal of Wound, Ostomy & Continence Nursing*; 39 (2): PP. 143–145.
10. Funkesson KH, Anbacken EN. Nurses reasoning process during care planning taking pressure ulcers prevention. *International Journal of nursing students*.2007; 44(7): 1109-19.
11. Bergstrom,N. and Braden, B.J. (2002): Predictive validity of the Braden scale among black and white subjects.*Journal of nursing research*.51(6).398-403.
12. Atkins, e. Solomon,L.J., worden, J.K., & Foster,R.(1993). *Complications of bed ridden patients*. *Preventive Medicine*. 14(3), 421-425
13. Pinto, B.M.(1993), *training and maintaining the skin integrity*. *American journal of preventive medicine*,7(3),188-192
14. Banks, M., Bauer, J., Graves, N. and Ash, S. (2009): Malnutrition and pressure ulcer risk in adults in Australian health care facilities. *Nutrition*, 26(9), pp. 896-901.
15. Jacob T.C.,dunder,(1997). *A complete skin care*. *Journal of the National Medical Association*, 86(1), 43-47
16. Leight,S.B., Chilingchen, Noel, S.Weiss, Pony Newcomb,e.al; (2007) *the effects of sskin care bundle on the patients with bed sore*. *Nursing Research*, 48(6),238-242.
17. Olson, James Stuart (2009). *A man with paralysis, Bed sore and History*. Baltimore: The Johns Hopkin University press.PP:197
18. Black. J. M; Edsberg, L. E; Baharestani, M. M; Langemo. D; Goldberg. M. (2011): Pressure Ulcers: Avoidable or Unavoidable? Results of the National Pressure Ulcer Advisory Panel Consensus Conference. *Ostomy wound Management* .FEBRUARY.
19. Pennypacker, H. S. (1992). *Different positions of bed sore*. *Administrative Medical Journal*, 12(4),34-37
20. Saunders, K. J.,Tracey MC, Cready, Jenkinson RGN, A.Bassili, et al, (1998). *Tie a bundle to care the wound*.*Cancer*, 58. 824-827

#### NET REFERENCES

1. Md.Shariful Islam. ‘A descriptive correlational study aimed to exmine nurses knowledge, attitude and practice regarding pressure ulcer prevention’. Prince of Songka University. 2010  
<http://kb.psu.ac.th/psukb/bitstream/2010/7830/1/326010.pdf>
2. Rosenfeld. J (2011): Pressure sore developed in a nursing home, long-term care facility or hospital. *Nursing Homes Abuse Blog*[www.nursinghomesabuseblog.com/bedso](http://www.nursinghomesabuseblog.com/bedso).
3. Nurhusien Nuru.et.al. ‘Knowledge and practice of nurses towards prevention of preventive ulcer and associated factors in Gondar university Hospital, Northwest Ethiopia’. *BMC Nursing*. Springer Link,16 may 2015.  
<http://link.springer.com/article/10.1186/s12912-015-0076-8/fulltext.html>
4. Aydin AK.et.al. ‘Assessment of nurses' knowledge and practice in prevention and management of deep tissue injury and stage I pressure ulce’r.2010 Sep-Oct;37(5):487-94.doi:10.1097/WON.0b013e3181edec0b.<http://www.ncbi.nlm.nih.gov/pubmed/20736857>
5. Pressure Ulcer. encyclopedia .[https://en.wikipedia.org/wiki/pressure\\_ulcer](https://en.wikipedia.org/wiki/pressure_ulcer)
6. NHS Choices. Pressure Ulcers-How pressure ulcers develop  
[www.nhs.uk/conditions/pressure\\_ulcer/pages/introduction.aspx](http://www.nhs.uk/conditions/pressure_ulcer/pages/introduction.aspx)
7. PressureSores.[www.hopkinsmedicine.org/geriatric\\_medicine.gerontology/\\_downloads/reading/sections](http://www.hopkinsmedicine.org/geriatric_medicine.gerontology/_downloads/reading/sections). Pdf
8. Kimpton, N. (2011): Pressure ulcer prevention policy., Peninsula Community Health on  
[www.PeninsulaCommunityHealth.co.uk](http://www.PeninsulaCommunityHealth.co.uk)
9. European Pressure Ulcer Advisory Panel (EPUAP). (2010): Prevention and Treatment of Pressure Ulcers. A Quick Reference Guide. Available at:[http://www.epuap.org/guidelines/Final\\_Quick\\_Prevention.pdf](http://www.epuap.org/guidelines/Final_Quick_Prevention.pdf) (accessed 11 May, 2010).