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Random ward round Audits - A Quality Improvement Initiative in infection control

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Abstract: **Ward round auditing checklist was used to improve standards of infection control policy in ward and critical care area. This tool provided immediate feedback and rapid changes in practice where needed. The process served as a forum for good teamwork and facilitated a positive attitude to changing staff behaviour.**

***Material and Methods*: A hospital based evaluative study was done in randomly selected different ward and critical care unit between 16 Oct-16 Nov 207 and 17 Nov -25 Dec 2017 through audit via providing infection control checklist. Intensive monitoring on ward round criteria checklist and day to day feedback to sister in-charge .The data was obtained from 4 critical care unit and also 9 general ward at Ruby general Hospital, data analysis done using descriptive and inferential statistics .Data presented in terms of frequency, percentage.**

***Results* : in general ward , highest compliance rate about some selective criteria on infection control criteria checklist on ward such as Anti – microbial solution in the hand washing area (pre Value -90.06%, post value -100%), Present four color segregating waste bin in every bed side (pre value-88.5%,post value 100%) ,Visible contamination humidifier circuit (pre value -92.3%,post value -100%). Lowest compliance rate Checked used NS/DNS Bottles after 24 hours (9.2%), Opening date of multiple dose vial/bottles(pre value -19.6% post value -55.29%),) ,Kept urinary catheter below bladder level with proper fixation(pre value -24.5% ,post value -70.2%). In other hand critical care unit, highest compliance rate on such as provide catheter care in every shift(pre value -50.58,pst value -100%) , appropriate use of PPE(56.38%), uses of disposable BIPAP mask (pre value -43.76%, post value -98.07%) maintain hand hygiene before doing suctioning (pre value -41.65% ,post value - 96.95%) , proper storage of sterile items in critical care area(pre value ,post value -54.38%.93.26%). Lowest compliance rate are all tubing's kept in proper place (pre value -19.22,post value -58%).**

***Conclusion*: from the above findings it was concluded that the ward round checklist on infection control is effective to maintain standard precaution and improved practice .**

Keywords: **ward round, infection control, audit, evaluative study, criteria checklist, descriptive and inferential statistics.**

1. INTRODUCTION

Ward round auditing checklist was used to improve standards of infection control policy in ward and critical care area . This tool provided immediate feedback and rapid changes in practice where needed. The process served as a forum for good teamwork and facilitated a positive attitude to changing staff behavior. Ward rounds are complex clinical activities, and are an integral part of hospital life. Failures in care can have a direct consequence on patient safety. Recently, simulation ward rounds have allowed medical students and junior doctors to practice their skills in a safe environment, yet there is no commonly accepted and taught framework on how to conduct a ward round.

Background:

Random safety audits have been shown to be effective in improving standards of practice in ward and critical care area .They are rapidly processed audits performed during real-time clinical activity, with immediate feedback, allowing for immediate change in practice. 20. A nursing.

A study was conducted by Mason I.A[1]. to I The impact of nurse-led clinical ward round on nursing documentation and clinical practice .It was identified, from observations and multi-disciplinary team feedback, that nursing documentation and related clinical practice was an area that requires development with reference to management of nutrition, bowels and promoting continence. A nurse-led clinical ward round was implemented in May 2011 to provide nursing leadership, guidance and supervision, aiming to raise their profile, improve clinical competence and professional practice, and achieve organizational targets as set out in the stroke quality management standards. The clinical impact is to improve the patients' experiences by developing the nurses' knowledge, skills and attitudes in specific stroke nursing care management. Method: A retrospective case notes audit of all stroke admissions to the unit four months preceding the introduction of the ward round and four months post intervention. Data collection will be focused on number of patients weighed within three days of admission, receive weekly nutritional screening and with plans to manage/regain continence, with emphasis on how this is documented and communicated - part of the minimum stroke quality data set. Results: Audit in progress and results will be available by December 2012 for presentation at the UKSF. The discussion of the data will be on evaluating the impact/difference this intervention has had on nursing documentation and resulting clinical practice. Conclusion: Future plans will be to address identified training gaps, plan with the stroke multi-disciplinary team, educational programs to address needs, and explore the impact on learning and practice amongst nursing staff as a result of their participation in the clinical round.

Aim:

To implement the Random ward round Audits concept in our ward and Intensive Care Unit to improve infection control and routine care standards.

Objectives:

To agree a check list for error prone activities in routine care and infection control standards

To introduce regular random audit of standards of checklist criteria

To facilitate staff engagement

To provide immediate feedback

To improve performance and compliance with standards

To re audit and maintain standards

To review and revise checklist once standards consistently achieved.

Approach:

Concept initiated in November 2009

Three Phases so far:

i. Phase 1 : 16 Oct to 16 Nov 2017

ii. Phase 2 : 17 Nov to 25 Dec 2017

• 20 criteria for ward round checklist audited in a one month study to create discussion and awareness of the process

•25 criteria for critical care checklist audited in a one month study to create discussion, giving infection control .

2. ACTION FOR IMPROVEMENT

- Identifying and selecting appropriate criteria: consensus reached by discussion between nursing and medical staff
- Maintaining integrity of audit cycle: designated members of medical and nursing staff agreed to take responsibility on a rolling basis
- Communication with staff: verbal non punitive immediate feedback to the staff present and displayed communication to wide

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- Intensive follow up and staff encouragement on infection control measures
- Intensive monitoring on ward round criteria checklist and day to day feedback to sister in-charge
- Provide continuous feedback and education on Infection control with Routine care
- Each criteria audited in a two month period during a routine ward round
- All staff members in the unit aware in general of the audit
- Results discussed with staff at end of ward round. Results presented following each audit on a designated ward

Phase 1 –Table a = Compliance measured (16 Oct to 16 Nov 2017) in critical care area

SL NO	OBSERVATION CRITERIA	16/10-16/11 (26 days observation)								TOTAL COMP%	TOTAL NON COMP%
		ITU		ICU-A		ICU-B		HDU			
		Comp	Non comp	Comp	Non comp	Comp	Non comp	Comp	Non comp		
1	Anti – microbial solution in hand washing area	50	50	50	50	42.3	57.7	46.15	53.85	47.11	52.89
2	There is towel in hand washing area	46.15	53.84	46.15	53.84	42.3	57.79	53.84	46.2	47.11	52.89
3	Every bedside has alcohol based hand rub	61.04	38.5	50	50	42.3	57.7	46.15	53.85	49.87	50.13
4	Uses transparent dressing on peripheral/central line	38.46	61.53	34.61	65.38	26.92	73.07	42.30	57.69	35.57	64.43
5	Insertion date of invasive line with level	46.15	53.84	42.3	57.7	38.46	61.53	36.61	65.38	40.88	59.12
6	Sign of infection on peripheral / central line/ any other invasive line	57.69	42.30	34.61	65.38	23.07	46.92	26.92	43.08	35.57	64.43
7	Maintain of closed system of central venous line	50	50	42.30	57.7	35.85	64.15	30.76	69.24	39.72	60.28
8	Maintain closed system of urinary catheter , uro-bag below bladder level	46.15	53.84	61.04	38.5	23.07	76.92	20.07	79.93	37.58	62.42
9	Provide catheter care in every shift	60.04	39.5	42.3	57.7	50	50	50	50	50.58	49.42
10.	Proper ventilator and ET tube care	57.69	42.30	46.15	53.85	42.3	57.7	42.3	57.7	47.11	52.89
11.	Maintain hand hygiene before doing suctioning	57.69	42.30	42.3	57.7	35.85	64.15	30.76	69.24	41.65	58.35
12	Uses of disposable BIPAP mask	53.84	46.15	46.15	53.85	38.46	61.53	36.61	65.38	43.76	56.24
13.	Are all tubing's kept in proper place	26.92	73.07	15.38	84.62	15.38	84.62	19.23	80.77	19.22	80.78
14	Proper ETO of ventilator cassette after each use	56.79	43.20	43.8	42.3	42.3	57.7	30.76	69.24	45.91	54.09
15	Proper surgical wound care	50.01	49.99	50.01	49.9	42.3	57.7	50	50	48.08	51.92
16	Opening date with expire date of multiple dose vial/ bottles	46.15	53.84	42.3	57.7	42.3	57.7	38.76	61.53	42.30	57.7
17	Labeling of charged medication on the bottle along with date and time	57.69	43.32	53.8	46.15	46.15	53.8	42.3	57.7	49.98	50.02
18	Daily change of lifter with date	50	50	53.8	46.15	42.3	57.7	46.15	53.8	48.06	51.94
19	Changes oxygen humidifier circuit if visible contamination	30.77	69.23	26.92	73.08	19.23	80.17	15.38	84.62	23.07	76.93
20	Proper storage of sterile items in critical care area	60.04	39.5	57.6	35.8	57.6	35.8	42.3	53.8	54.38	45.62
21	Appropriate use of PPE	60.04	39.5	57.6	35.8	53.8	42.3	53.8	42.3	56.31	43.69
22	Change of Cidex OPA periodically	57.6	35.8	57.6	35.8	46.15	53.8	46.15	53.8	51.87	48.13
23	Communicable disease present /not	11.03	88.9	9.84	90.16	7.18	92.82	7.18	92.82	91.19	8.8
24	Proper maintain of four colour codes for segregating waste	60.04	39.5	57.6	35.8	53.8	42.3	46.15	53.85	54.39	45.61
25	Have available shoes cover storage system in front of door of critical care	60.04	39.5	53.8	42.3	53.8	42.3	46.15	53.85	53.44	46.56

Phase 1 – Table b- Pre observation of criteria checklist Compliance measured (16Oct to 16Nov 2017) in ward

SL NO	OBSERVATION CRITERIA	16/10-16/11 (26 days observation)									TOTAL COMP%	TOTAL NON COMP%
		1ST	2ND	3rd	MT	ENC	REG	PD1	PD2	EMER		
		Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp	Comp		
1	Anti – microbial solution in the hand washing area.	84.62	84.62	80.77	80.77	96.15	96.15	92.3	100	100	90.6	9.4
2	There is towel/tissue paper in hand washing area	73.1	76.93	80.14	76.93	84.61	76.93	96.16	96.16	3.84	73.9	26.1
3	Every bedside has alcohol based hand rub	26.93	38.47	46.35	50	46.16	19.24	15.39	52	11.53	34.1	65.9
4	Uses transparent dressing on peripheral/central line	69.24	69.24	61.54	57.7	73.08	61.54	73.08	53.8	69.23	65.4	34.6
5	Insertion date of invasive line with level	52.13	42.32	26.92	26.92	46.16	42.31	61.53	50	26.93	41.7	58.3
6	Checked used NS/DNS Bottles after 24 hours	11.03	9.84	7.18	7.18	9.84	11.03	11.53	7.69	7.69	9.2	90.8
7	Opening date of multiple dose vial/bottles	26.92	19.23	26.92	19.23	42.30	11.53	15.38	7.69	7.69	19.6	80.4
8	Checked level on infusion set with date	42.32	53.85	19.23	26.92	19.23	46.16	73.08	42.3	-	40.4	59.6
9	Daily change of lifters with date and time.	50	57.7	42.3	69.24	42.30	65.39	57.7	50	76.93	56.8	43.2
10	Labeling of charged medication on the bottle along with date and time	73.08	61.54	53.85	61.54	69.24	42.19	53.85	73.05	84.62	63.6	36.4
11	Kept urinary catheter below bladder level with proper fixation.	30.77	26.92	19.23	26.92	26.92	19.23	15.38	30.76	-	24.5	75.5
12	Insertion date of urinary catheter with level.	42.32	53.85	46.15	42.3	46.16	73.1	53.84	76.93	-	54.3	45.7
13	Visible contamination humidifier circuit.	92.3	96.16	88.46	80.77	92.3	92.3	96.16	96.16	96.16	92.3	7.7
14	Are all tubing's kept in proper place	42.32	53.85	73.08	46.77	52.39	53.80	42.3	46.15	73.08	53.8	46.2
15	Available PPE present in the ward	69.24	69.24	73.08	69.24	53.84	53.8	46.15	42.3	76.8	61.5	38.5
16	No sign of infection on IV line	53.85	46.15	46.15	30.77	30.77	23.07	26.92	57.69	60.3	41.8	58.2
17	Proper present dressing trolley in the ward	52.13	42.32	42.3	30.76	53.8	53.8	53.84	68.54	69.53	51.9	48.1
18	No sign oozing present on surgical site wound	73.08	61.54	61.54	61.54	73.08	69.53	61.54	69.53	73.08	67.1	32.9
19	Present four color segregating waste bin in every bed side	84.62	84.62	80.77	96.15	80.77	92.3	96.15	80.77	100	88.5	11.5
20	Present any recap needle in PPC	52.13	53.85	53.85	69.23	61.54	61.54	70.4	73.08	-	61.95	38.05

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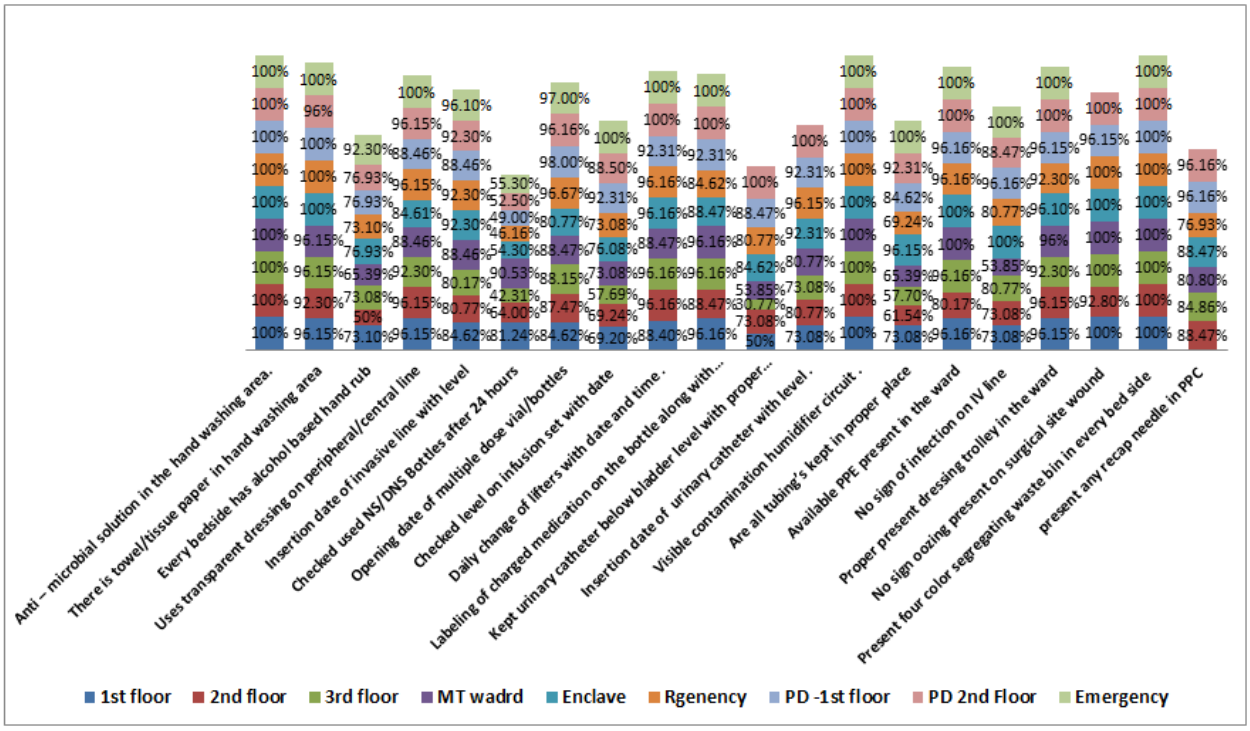

Phase –II Fig-1 Post implementation of criteria checklist on infection control ,Compliance measured In ward (17 Nov to 17Dec 2017)

Phase 11 –Table b Post implementation of criteria checklist round ,Compliance measured in critical area (21 Nov to 25Dec 2017)

SL NO	OBSERVATION CRITERIA	17/11-17/12 (26 days observation)								COM	NON COMP
		ITU		ICU-A		ICU-B		HDU			
		Comp	Non comp	Comp	Non comp	Comp	Non comp	Comp	Non comp		
1	Anti – microbial solution in hand washing area	100	0	100	0	73.07	26.92	76.95	23.07	87.49	12.51
2	There is towel in hand washing area	92.3	7.69	84.61	15.384	46.15	53.84	61.53	38.46	71.14	28.86
3	Every bedside has alcohol based hand rub	100	0	80.76	19.23	53.84	46.15	88.46	11.53	80.76	19.24
4	Uses transparent dressing on peripheral/central line	69.23	30.76	100	0	88.46	11.53	88.46	11.53	86.53	13.47
5	Insertion date of invasive line with level	80.76	19.23	92.3	7.69	80.76	19.23	80	20	83.45	16.55
6	Sign of infection on peripheral / central line/ any other invasive line	88.46	11.53	88.46	11.53	84.61	15.38	65.38	34.61	81.72	18.28
7	Maintain of closed system of central venous line	100	0	96.15	3.84	100	0	96	4	98.03	1.97
8	Maintain closed system of urinary catheter , uro-bag below bladder level	76.92	23.07	92.3	7.69	50	50	65.38	34.61	71.15	28.85
9	Provide catheter care in every shift	100	0	100	0	100	0	100	0	100	0
10.	Proper ventilator and ET tube care	100	0	100	0	80	20	100	0	95	5
11.	Maintain hand hygiene before doing suctioning	100	0	96.15	3.84	100	0	91.66	8.33	96.95	3.05
12	Uses of disposable BIPAP mask	100	0	100	0	100	0	92.3	7.69	98.07	1.93
13.	Are all tubing's kept in proper place	57.69	42.3	38.46	61.5	60.86	39.13	75	25	58	42
14	Proper ETO of ventilator cassette after each use	92.3	7.69	100	0	92.85	7.14	95.2	4.79	95.09	4.91
15	Proper surgical wound care	100	0	96.15	3.84	81.81	18018	90.91	9.09	92.21	7.79
16	Opening date with expire date of multiple dose vial/ bottles	88.46	11.53	88.46	11.54	72	28	92.3	7.69	85.3	14.7
17	Labeling of charged medication on the bottle along with date and time	100	0	100	0	88.46	17.53	96.16	3.84	96.15	3.85
18	Daily change of lifter with date	92.3	7.69	88.46	11.54	65.38	34.61	84.62	15.38	82.69	17.31
19	Changes oxygen humidifier circuit if visible contamination	53.84	46.15	57.69	42.3	34.61	65.38	50	50	49.03	50.97
20	Proper storage of sterile items in critical care area	100	0	96.15	3.84	80.76	19.23	96.15	3.84	93.26	6.74
21	Appropriate use of PPE	100	0	96.15	3.84	73.07	26.92	75	25	86.05	13.95
22	Change of Cidex OPA periodically	76.92	23.07	96.15	3.84	73.07	26.92	88.46	11.53	83.65	16.35
23	Communicable disease present /not	46.15	53.84	50	50	50	50	50	50	55.97	44.03
24	Proper maintain of four colour codes for segregating waste	100	0	88.46	11.54	100	0	92.63	7.69	95.19	4.81
25	Have available shoes cover storage system in front of door of critical care	100	0	100	0	92.30	7.69	96.15	3.84	97.11	2.89

3. CONCLUSION

The main study was conducted at Ruby General Hospital ,Kolkata from 16 /10/2017-25/12/2017 i.e pre assessment done 17 Nov -17 Dec without criteria check list on infection control .After that we are given ward round with help of criteria checklist and got result are - highest compliance rate about some selective criteria **on infection control criteria checklist on ward such** as Anti – microbial solution in the hand washing area (pre Value -90.06%, post value -100%), Present four color segregating waste bin in every bed side (pre value-88.5%,post value 100%) ,Visible contamination humidifier circuit (pre value -92.3%,post value -100%) . Moderate compliance rate are Daily change of lifters with date and time (pre

value -56.8% ,post value -94.9%), Labeling of charged medication on the bottle along with date and time(pre value -63.6%, post value -93.6%), Daily change of lifters with date and time (pre value -56.8%,post value-94.9%) ,Available PPE present in the ward(pre value 61.5% ,post value -96.1%) .Lowest compliance rate Checked used NS/DNS Bottles after 24 hours (9.2%), Opening date of multiple dose vial/bottles(pre value -19.6% post value -55.29%),) ,Kept urinary catheter below bladder level with proper fixation(pre value -24.5% ,post value -70.2%).Highest compliance rate about some selective criteria on infection control criteria checklist on critical care area such as Provide catheter care in every shift(pre value -50.58,pst value -100%) , Appropriate use of PPE(56.38%), Uses of disposable BIPAP mask (pre value -43.76%, post value -98.07%) Maintain hand hygiene before doing suctioning (pre value -41.65% ,post value - 96.95%) , Proper storage of sterile items in critical care area(pre value ,post value -54.38%.93.26%). Moderate compliance rate are Anti – microbial solution in hand washing area (pre value -47.11%, post value -87.49%) ,There is towel in hand washing area,(pre value -47.11%, post value -71.14%), Uses transparent dressing on peripheral/central line (pre value -35.57%, post value -86.53%),Every bedside has alcohol based hand rub (pre value -49.85%,post value -80.76%) ,Daily change of lifter with date(pre value -48.06%,post value -82.69%) ,Maintain closed system of urinary catheter , uro-bag below bladder level(37.58%,71.15%) .Lowest compliance rate are all tubing's kept in proper place(pre value -19.22,post value -58%). Above findings showed that every criteria on infection control increased compliance rate . From the above findings it was concluded that the ward round checklist on infection control is effective to maintain standard precaution and improved practice**.**

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