Factors Influencing Perspectives Of Selected Health Care Professionals On Patient Involvement In Patient Safety At Tertiary Care Women's Hospitals In Colombo District

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***Abstract*- Purpose** Patient safety always interplays with the other key components of health care system. Therefore, patient safety management is a collective task involving medical administrators, clinicians and clients. Overall aim should be to minimize or avoidance of recognizable errors and mistakes rather than zero adverse events. Adverse events reporting is minimal or no in low income countries leading to difficulties in assessing the exact situation in such countries. The patients are given little or no opportunity to involve in patient safety issues at present in our country. Factors contributing to HCP participation in patient safety issues is minimally assessed in our country. The aim of this research is to describe extent of factors which can affect the HCP participation in patient safety issues.

Methodology This is a hospital-based descriptive, cross-sectional study were carried out in tertiary care Women's hospitals in the Colombo district. The sample size is 422. Stratified random sampling method were used to get the required sample size. The data was collected using a self-administered questionnaire.

Findings Result showed that all three selected HCPs were in general agreement that factors were positively influencing patient involvement in patient safety. Although, results of patient related and illness related factors showed statistically significant difference among selected HCP groups. However, uniformity noted on HCP related and health care setting related factors among three different HCP groups.

Originality/value Perspectives of HCPs on patient involvement in patient safety survey, which was done in SL for the first time in a government maternity hospital in Sri Lanka.

***Index Terms*-** Patient involvement, HCP attitude, Patient safety

Paper type - Research paper

I. INTRODUCTION

Patient safety can, be defined as: 'The avoidance, prevention and reduction of adverse events or injuries stemming from healthcare delivery process' [20]. Patient safety should consider broad spectrum of minor errors to major hazards. Gaps and lapses in patient safety could lead to patient adverse events and no health hazards. An adverse event can be described as an unintended damage to a patient caused by during healthcare provision rather than by the illness it and which can lead to prolonged hospital stay or to casual or permanent damage to the patient at the time of discharge or both. [21]. Adverse events are explained as an unintended damage caused by process of health care provision rather than the illness itself that causes in some obvious injury or, at least, spent on additional days in health care institution. Obstetrics and Gynecology claims show the largest value and second highest number of clinical negligence claims reported to the NHS Litigation Authority. This report analyzed ten years of maternity claims with an

incident date between 1st April 2000 and 31st March 2010. i.e. 5,087 maternity claims with a total value of £3.1Billion. The report suggests that the best way to reduce the financial and human cost of maternity claims is to continue to improve the patient safety associated with obstetrics and Gynaecology field. [19]. Nearly 43 million adverse events happen annually around the world due to patient safety related events and cause a staggering 23 million associated disability-adjusted life years. Alarmingly around 66% of these occur in under develop countries. [11] Patient safety always interplays with the other key components of health care system. Therefore, patient safety management is a collective task involving medical administrators, clinicians and clients. Overall aim should be to minimize or avoidance of recognizable errors and mistakes rather than zero adverse events.

Patient involvement in safety will decide on several different components [6].

i. Relationship with health care professionals

ii. Identifying the patient's knowledge by heath care professionals

iii. Adequate time allocation

iv. Patient's mental and physical capacity

v. Past experiences related their care

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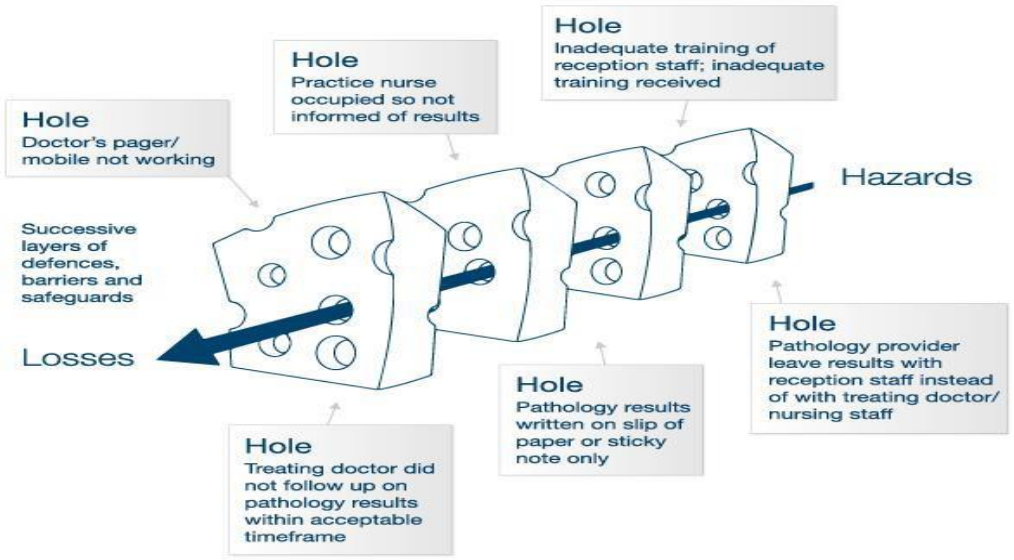
Dr Sathasivam Sridharan – Deputy Director General – Planning, Ministry of Health, Colombo, Sri Lanka Adverse events reporting is minimal or no in low income countries leading to difficulties in assessing the exact situation in such countries. However, mortality figures are high in low income countries compare to developed countries and this give a suggestion of a much higher adverse events in low resource countries. The patients are given little or no opportunity to involve in patient safety issues at present in our country. Similarly, HCPs participation in patient safety issues may be affected by time constraints, inadequate staff, heavy workload, and lack of interest from the side of the patients. Above factors contributing to HCP participation in patient safety issues is minimally assessed in our country. The second aim of this research is to describe extent of factors which can affect the HCP participation in patient safety issues. This study may help to describe the necessary changes that could be implemented to create a more patient involvement in their care. In Sri Lanka patients are generally less knowledgeable and also reluctant to participate in patient involvement in patient safety issues. Therefore, HCP would be the most suitable group to assess the patient involvement in patient safety.

1.1 LITERATURE REVIEW

Patient safety can, be defined as: 'The avoidance, prevention and reduction of adverse events or injuries stemming from healthcare delivery process' [19]. Patient safety should consider broad spectrum of minor errors to major hazards.

1.2 Understanding how things go wrong



Some holes due to active failure. Other holes due to latent conditions (resident "pathogens").

Risk analysis and risk management is commonly done by using the Swiss cheese model of accident causation. Aviation industry and high risk engineering fields were using this model first and later this was incorporated to health care as well. Principle behind this concept is that defenses are arranged in multiple layers, so that damage to happen there must be breach in many different levels. Therefore, in theory, gaps and deficiencies in one defense do not allow a risk to materialize, since other defenses also exist, to prevent a single point of weakness. This concept was originally put forward by Dante Orlandella and James
T. Reason of the University of Manchester and has since gained widespread popularity. It is sometimes called the cumulative act effect.

1.3 Safety Culture

Concept of safety culture was first described outside the medical field, areas with more complex and high risk works like aviation. High reliability organizations committed to provide safety at all levels, from frontline managers to executives. This commitment creates a "culture of safety" that comprises following key features: [22] - risk nature of an organization's tasks and the commitments to achieve consistently safe operations Creation of blame-free environment where workers are able to report mistakes or near misses without fear of punishment disciplines to seek solutions to improve patient safety. commitment of resources to address safety concerns. A culture of safety has been regarded as a key mechanism of underlying safe, effective, and timely health care. It has been considered as a most important factor underlying continuous medical education and efficient teamwork, as well as a driver of safety related behaviors such as medical error reporting, and safety outcomes such as reduced adverse events [4].

1.4 Factors affecting patient participation in patient safety

Despite new role of patient in active participation in their health care process, there are many obstacles for that as well. The factors that could affect patient participation include acceptance of patient role in participation [7], level of medical knowledge [12], self confidence in own capacities [8] decision making requirement [13] the proposed treatment outcome (Mansell et al., 2000), type of disease and comorbidity age, gender, socioeconomic status, ethnic background [14] use of alternative health care (Vincent and Furnham, 1999) heath care professional specialty [17]. Above mention factors broadly divide in to five categories by Rachel E in 2007.Those are as follows. [5], [6]

1. Patient-related factors: patients' educational level and knowledge on safety; previous experience on health care related issues and sociodemographic characteristics.

2. Illness-related factors: stage and the severity of the medical condition; symptoms and signs; care plan; illness outcomes; and previous experience of disease.

3. Health Care Professional (HCP)-related factors: HCPs' perception on patients' involvement in patient safety; and their interaction with patients

4. Health Care Setting (HCS)-related factors: level health care setting "primary, secondary or tertiary care setting"; and admission procedure – "emergency or elective."

5. Task-related factors: the specific patient role in participation in safety.

Patient involvement in safety related issues depend on clinicians' knowledge, attitudes and behaviors. One obstacle for the patient involvement in safety practices is HCPs'negative attitudes on patient participation and reluctance to cooperate with patients' opinion. The traditional view on patient involvement was a significant hurdle in patient safety. [9]. HCPs' usually wants to maintain the upper hand over patient by means of involving different ways. For an example chance of a productive discussion avoids by asking close ended questions. [10]. Inadequate time allocation is a crucial factor limiting the patient involvement in their care [1].Research conducted in involving 600 obstetricians on their opinion about elective, client requested cesarean operation found that many obstetricians believed women's had right to request for caesarian section, in contrast 25% who believed that women didn't have such a right [3].

Objectives

General objective to describe the factors influencing perspectives of selected health care professionals on patient involvement in patient safety at tertiary care women's hospitals in Colombo district

Specific Objectives

1. To describe the socio demographic factors of selected HCP in related to patient involvement in patient safety.
2. To identify the patient-related factors influencing selected HCP perspectives on patient involvement in patient safety.
3. To identify the illness-related factors influencing selected HCP perspectives on patient involvement in patient safety.
4. To identify the Health Care Professionals-related factors influencing selected HCP perspectives on patient involvement in patient safety.
5. To identify the Health Care setting- related factors influencing selected HCP perspectives on patient involvement in patient safety.

Selected Health Care Professionals (HCP) in this study include Consultants, Postgraduate trainees, Senior Medical Officers, Relief House Officers, Intern Medical Officers, Nursing Sisters, Grade Nursing Officers and Midwives.

II. METHODOLOGY

1.5 Study Design

This is a hospital-based descriptive, cross-sectional study were carried out in tertiary care Women's hospitals in the Colombo district.

1.6 Study Setting

There are three tertiary care women's hospitals in Sri Lanka. Of which two are in Colombo district namely De Soysa Hospital for Women (DSHW) and Castle Street Hospital for Women (CSHW). These two hospitals in Colombo district are selected as the study setting.

1.7 Study Period

The study was carried out from 10th November 2016 to 22nd August 2017. Data collection were carried out from 01st of April 2017 to 10th of May 2017 in De Soysa Hospital for Women and Castle Street Hospital for Women

3.4 Sample Size

The sample size was calculated based on the formula. (Lwanga and Lemeshow, 1991). [15] The sample size is 422. Stratified random sampling method were used to get the required sample size. Selected HCP working at obstetrics and gynaecological units at tertiary care women's hospitals in Colombo district were included to study the perspectives of selected HCP on patient involvement in patient safety. Sample sizes for three professional categories from each hospital was calculated according to proportions. Ethical approval of the study was obtained from ethical review committee Post Graduate Institute of Medicine, University of Colombo.

2 RESULTS

Table 4.1. Participant Characteristics - CSHW and DMHW Hospitals

Sociodemographic Variables	Doctors n=94 (24.04%)	Nurses n=215 (54.98%)	Midwives n =82(20.97%)	Total n=391(100%)
Sex Male	75 (79.8%)	0	0	
Female	19 (20.2%)	215 (100%)	82 (100%)	
Age				
1 (<30 yrs)	46 (48.9%)	48 (22.3%)	07 (8.5%)	101 (25.8%)
11 (31-40 yrs)	25 (26.6%)	92 (42.8%)	36 (43.9%)	153 (39.1%)
111 (41-50 yrs)	18 (19.1%)	59 (27.4%)	29 (35.4%)	106 (27.1%)
1V (>51yrs)	05 (5.3%)	16 (7.4%)	10 (12.2%)	31 (7.9%)
Professional category				
Consultants		05 (1.3%)		
Post Graduate Trainee		10 (2.6%)		
Senior House Officer		35 (9%)		
Resident House Officer		18 (4.6%)		
Intern House Officer		26 (6.6%)		
Ward Sister		07 (1.8%)		
Grade Nursing Officer		208 (53.2%)		
Midwife		82 (21%)		
Total Working experience				
Years				
<5	48 (51.1%)	34 (15.8%)	18 (22%)	100 (25.6%)
6- 10	17 (18.1%)	73 (34.0%)	20 (24.4%)	110 (28.1%)
11-15	20 (21.3%)	47 (21.9%)	19 (23.2%	86 (22%)
16-20	04 (4.3%)	46 (21.4%)	16 (19.5%)	66 (16.9%)
21-25	02 (2.1%)	07 (3.3%)	08 (9.8%)	17 (4.3%)
> 26	03 (3.2%)	08 (3.7%)	01 (1.2%)	12 (3.1%)
Working experience in current institution				
Years				
< 5	92 (97.9%)	127 (59.1%)	42 (51.2%)	261 (66.8%)
6- 10	00 (0.0 %)	74 (34.4%)	24 (29.3%)	98 (25.1%)
11-15	01 (1.1 %)	10 (4.7%)	13 (15.9%)	24 (6.1%)
16-20	01 (1.1 %)	04 (1.9%)	03 (3.7%)	08 (2.0%)
Qualifications				
Diploma	00 (0.0%)	00 (0.0%)	82 (100%)	82 (21%)
Basic Degree	00 (0.0%)	215 (100%)	00 (0.0%)	215 (55%)
Undergraduate Degree	89 (94.7%)	00 (0.0%)	00 (0.0%)	89 (22.8%)
Postgraduate Degree	05 (5.3%)	00 (0.0%)	00 (0.0%)	05 (1.3%)

Table 4.1 shows participant characteristics. Altogether there were 391 respondents. (Total sample was 422 with a 92% response rate). There were 94(24%) doctors, 215(55%) nurses and 82 (21%) midwives for the study as a whole. Age distribution showed that around 50% of doctors were in less than 30 years' age category. Major proportion of nurses and midwives were in age 31- 40 category,43% and 44% respectively. Majority of doctors 48(51%) had total working experience, in contrast nurses and midwives more spread in total working experience. Current working experience showed that majority of three selected HCPs' were in less than 05 years' category. Professional qualification showed that all midwives holding a diploma (100%), nurses were holding a basic degree (100%) and majority of doctors holding an undergraduate degree (95%).

Descriptive Statistics for Survey 3: Factors influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW.

Table 4.2 - Patient related factors influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW.

Item Description	Doctors n= 94 (24%)	Nurses n=215 (55%)	Midwives n=82 (21%)	Total N=391 (100%)	F	P value
	Mean SD	Mean SD	Mean SD	Mean SD		
Patient-related factors						
1.How much patients' knowledge and beliefs	4.76 0.59	4.74 0.69	4.68 1.35	4.73 0.85	0.234	0.79
2.How much patients' past experiences with health care	5.17 0.63	4.54 0.63	5.00 0.84	4.79 0.89	20.39	0.00**
3.How Much patients' demographic characteristics	4.50 0.95	4.65 0.90	5.02 0.94	4.69 0.94	7.43	0.00**
4.How much patient's autonomy	4.72 0.88	4.35 0.90	4.93 0.80	4.56 0.90	14.94	0.00**
Total	**4.78** **0.50**	**4.57** **0.70**	**4.91** **0.58**	**4.69** **0.65**	**9.30**	**0.00****

* P < 0.05 ** P < 0.01 Source - survey data.

Table 4.2 shows Patient related factors influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW. All three selected HCPs were in general agreement that patient related

factors were positively influencing patient involvement in patient safety. Although, there were statistically significant difference among selected HCP groups in 03 out of 04 items.

Table 4.3 - Illness related factors influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW.

Doctors		**Nurses**	**Midwives**	**Total**		
Item Description	**n= 94 (24%)**	**n=215 (55%)**	**n=82 (21%)**	**N=391 (100%)**	**F**	**P value**
Mean SD		**Mean SD**	**Mean SD**	**Mean SD**		
Illness-related						
5.How much the stage and severity of the illness	4.89 0.67	4.84 0.78	5.08 0.63	4.90 0.73	3.19	0.04**
6.How much the treatment plan	4.35 0.93	4.80 0.90	5.09 0.79	4.75 0.92	16.12	0.00**
7.How much the prior experience on illness	5.08 0.63	4.36 0.89	5.12 0.77	4.69 0.89	39.86	0.00**
8.How much illness outcomes	4.87 0.79	4.57 0.33	5.07 0.88	4.74 0.91	10.47	0.00**
Total	**4.80 0.44**	**4.64 0.74**	**5.09 0.53**	**4.77 0.66**	**14.30**	**0.00****

* P < 0.05 ** P < 0.01 Source - survey data.

Table 4.3 shows Illness related factors influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW. Three selected HCPs were generally agreed that illness- related factors were positively influencing patient involvement in patient safety. However, there was a statistically significant difference among HCPs in all 04 items.

Table 4.4 - Health care professional related factors influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW

Doctors		**Nurses**	**Midwives**	**Total**		
Item Description	**n= 94 (24%)**	**n=215 (55%)**	**n=82 (21%)**	**N=391 (100%)**	**F**	**P value**
Mean SD		**Mean SD**	**Mean SD**	**Mean SD**		
Health care professional related						
9.To what extend HCP's knowledge and beliefs	5.19 0.53	4.80 0.77	4.96 0.80	4.92 0.74	9.47	0.00**
10.To what extend the time allocation for a given patient	5.46 0.58	5.15 0.57	5.24 0.61	5.24 0.59	9.48	0.00**
11.To what extend the staffing	5.68 0.67	5.31 0.60	5.29 0.63	5.39 0.64	12.43	0.00**
12.To what extend HCP's experience and training on patient safety	5.21 0.78	5.19 0.56	5.18 0.78	5.19 0.67	0.044	0.95
Total	**5.38 0.42**	**5.11 0.43**	**5.17 0.43**	**5.19 0.44**	**13.12**	**0.00****

* P < 0.05 ** P < 0.01 Source - survey data.

Table 4.4 shows Health care professional related factors influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW. All three selected HCPs recognized "To what extend the staffing" as a most influencing factor.

Table 4.5 - Health care setting related factors influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW.

Doctors		**Nurses**	**Midwives**	**Total**		
Item Description	**n= 94 (24%)**	**n=215 (55%)**	**n=82 (21%)**	**N=391 (100%)**	**F**	**P value**
	Mean SD	**Mean SD**	**Mean SD**	**Mean SD**		
Health care setting (HCS) related						
13.To what extend level of care (primary, secondary or tertiary care)	5.22 0.69	4.84 0.75	5.01 0.82	4.96 0.77	8.49	0.00**
14.To what extend admission process (emergency or elective)	5.43 0.64	4.88 0.76	5.19 0.67	5.08 0.75	20.13	0.00**
15.To what extend presence of established patient safety program	5.47 0.61	5.20 0.63	5.36 0.67	5.30 0.64	6.53	0.00**
16.To what extend presence of patient's feedback system	5.43 0.71	5.20 0.54	5.28 0.77	5.27 0.64	4.28	0.01**
Total	**5.39 0.42**	**5.03 0.49**	**5.21 0.50**	**5.15 0.50**	**18.82**	**0.00****

* P < 0.05 ** P < 0.01 Source - survey data.

Table 4.5 shows "Health care setting related factors" influencing selected HCP perspectives on patient involvement in patient safety in CSHW and DSHW. Overall three selected HCPs recognized as "To what extend presence of established patient safety program" as a most influencing factor.

III. DISCUSSION

This study also found that factors affecting HCPs' perspectives on patient involvement in patient safety can also vary with type of HCP category. There were some differences in HCPs' perspectives in two studied health care institutions.

2.1 Sociodemographic data

Sociodemographic results showed that there were 94(24%) doctors, 215(55%) nurses and 82 (21%) midwives with the total of 391. Current working experience showed that majority of three selected HCPs' were in less than 05 year category. Professional qualification showed that all midwives holding a diploma (100%), nurses were holding a basic degree (100%) and majority of doctors holding an undergraduate degree (95%). There was no significant difference noted among participant characteristics between two health care institutions.

2.2 Factors influencing selected HCP perception on patient safety

Survey was about assessing the factors that were influencing selected HCP perception on patient safety. Influencing factors broadly categorized into four components. Four components were

1. Patient- related factors (04 items)
2. Illness- related factors (04 items)
3. Health care professional related factors (04 items)
4. Health care setting related factors (04 items)

Result showed that all three selected HCPs were in general agreement that factors were positively influencing patient involvement in patient safety (Table 4.14 – 4.17). Although, results of patient related and illness related factors showed statistically significant difference among selected HCP groups. However, uniformity noted on HCP related and health care setting related factors among three different HCP groups.

Patient involvement in health care provision depends on various factors. Some of them are patients' age, gender, knowledge and ethnicity [2]. Earlier studies showed patients with minor medical problems likely to take active role in their health than patients with severe medical problems [2]. Previous clinical experience of a particular medical problem can affect patient involvement in their future medical issues. Another study showed that patients with a previous history of coronary syndrome likely to participate more in decision making than that of without such a history of coronary heart disease [16].

Limitations of the study

There were few limitations in our research. First, our sample was confined to two women's hospitals in Colombo and only involving obstetric and gynaecological specialties. Therefore, our research findings need to be generalized with caution as one specialty of medicine was involved. Therefore, much larger sample with different medical specialties needed before applying for general population.

IV. CONCLUSIONS AND RECOMMENDATIONS

All three selected HCPs' were in general agreement that factors were positively influencing patient safety related behaviors however there was a significant difference on extent to which factors involving among three selected HCPs'. Education and training programs on patient safety culture is necessary to establish to minimize above mention gaps. This education programs should also need to consider patient participation as an important requirement. Establishing a no blame culture in health care institutions will play key role in changing their behavior. Updating or developing guidelines on incident reporting and distributing among HCPs'can encourage their participation in incident reporting. Periodically (e.g. quarterly, annually) conducting training and educational program on patient safety allow HCPs' staff to refresh and update current knowledge on patient safety. Induction programs should have a patient safety component which allow new comers to familiar with patient safety issues at the beginning. Establishing active on going patient feedback system allow HCPs' to response to their failures and mistakes timely and efficiently. This will indirectly create patient's confidence about their health care providers. As this research was confined to obstetrics and gynaecological field it is mandatory to conduct research involving other medical fields with much larger samples. This will increase the generalizability and applicability in future. Other component is that it is necessary to conduct studies involving actual patients to get the real perspectives on patient safety from their eye.

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