Patient Safety Assessment in Slovak Hospitals

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Abstract

Introduction: Patient safety is recognized as a major issue for health care organizations. Assessment of safety culture is a key step in improve it in an healthcare centers and patient safety culture is generally measured by surveys of providers worldwide. This type of survey was conducted also in the Slovak hospitals during 2010 and 2011 with the main aims to find out how healthcare workers perceive patient safety in their organization and how they assess safety culture in individual units.

Materials and Methods: A study included 3 hospitals from Trnava region and the total number of respondents included 1 787 hospital staff. The Hospital Survey on Patient Safety Culture (HSOPSC) Questionnaire from AHRQ (Agency for Healthcare Research and Quality) was used. The response rate was 75%. AHRQ methodic, Pearson's Chi-squared test, pairwise proportion test ($p \leq 0,05$) and Cronbach's alpha were used for statistical analysis.

Results: Patient safety in Trnava regional hospitals was evaluated as positive by 50% of healthcare workers. The highest scores were obtained in specific dimensions as overall perception of safety (74%) and handoffs and transition (70%). According to this survey, health care workers considered teamwork across hospital units (35%) and hospital management support for patient safety issues (39%) as being weak areas, from their perspective. Staff also admitted to being fearful of adverse event reporting. Physicians and nurses had significantly a different looking at an communication, adverse events reporting and staffing in surveyed hospitals.

Conclusions: The survey found out some strong and weak areas that could be helpful for hospital management teams to increase incentives for patient safety and for the maintenance of patient safety culture therefore to improve healthcare quality and safety in these hospitals.

Keywords: patient safety, culture, hospital, survey

Introduction

Patient safety represents a global public health problem which affects countries at all levels of development. WHO Patient Safety (known as the World Alliance for Patient Safety) was established in 2004 to mobilize global efforts to improve the safety of healthcare for patients in all its members [1]. The study of patient safety culture is now a required subject that can provide feedback to the healthcare systems with the possibility to implement improvement measures based on the identification of specific problems [2]. In recent years, a lot of developed and developing countries has been published surveys on patient safety culture in hospitals [3]. Assessing the existing safety culture in hospital is the first stage of developing a safety culture [4]. Patient safety culture assessments, required by international accreditation organizations, allow healthcare institutions to obtain a clear view of the patient safety aspects requiring urgent attention, help care giving units identify their existing patient safety problems and benchmark their scores with other hospitals [5]. The aims of our survey were to find out how healthcare workers perceive patient safety in their workplace, how they assess patient safety culture in hospitals, also to discover if hospital staff perceive significantly different patient safety between hospitals and if physicians have different opinions than nurses to safety culture.

Materials and Methods

Field survey was carried out in three hospitals, Western Slovakia during 2010 and 2011. The participants in this study were 1 787 healthcare workers. The sample roughly represented all professional groups (physicians, nurses, midwifes, body snatchers, pharmacy, laboratory staff, etc.). To ensure the privacy of the respondents, the survey was strictly anonymous. The final response rate for the survey was 75%.

An internal assessment tool was used, which is the Hospital Survey on Patient Safety Culture (HSOPSC) questionnaire of the Agency for Healthcare Research and Quality(AHRQ) (AHRQ, 2008). The HSOPSC includes 12 dimensions of patient safety culture. The last part of the survey contained questions regarding the demographic information of interviewees, including hospital level, gender, education level, work unit/department and position. The exclusion criteria are following: (1) no entire section completed; (2) fewer than half the items answered; or (3) all items answered the same. The questionnaire was translated into Slovak language and pilot tested in several Slovak hospitals in order to ensure the validity and reliability of the Slovak version. The results of the pilot study was discussed with all the members and as consequence some questions were adjusted.

Firstly, descriptive statistics of the demographic characteristics of respondents and statistics of patient safety culture and patient safety behavior were computed. Items were scored using a Likert response scales of an agreement. The questionnaires were analyzed by the AHRQ methodology. The percentage of positive responses for each item was calculated; negatively worded items were reversed when computing percent positive response. Composite level scores were computed by summation of the items within the composite scales and dividing by the number of items with non-missing values. Consequently, Pearson's Chi-squared test and pairwise proportion test ($p \leq 0,05$) were used for mutual comparison of individual hospitals, then

for opinions comparison between physician and nurses. The internal consistency of the factors was calculated with Cronbach's alpha.

Results

We distributed 1 787 questionnaires and 1 341 from them returned back to us. The responses of 1305 surveyed subjects (36 questionnaires were excluded by criteria) were analyzed. 1 087 (83.3%) respondents work in direct interaction and contact with patients. Healthcare workers were mostly nurses (50.5%), physicians (13.6%) or body snatchers (10.9%). The healthcare workers were from 16 different hospital units. The most represented work area were unit of internal medicine (17.9%), gynecology, obstetrics or newborn unit (12.2%) and surgery (10.8%). About 21% of hospital staff did not specify their primary work area (Table 1). Subjects reported that they (24.4%) have had 21 years and more professional experience and similar number (22.4) had 1 to 5 years professional experience and around 30% of them have had 6 to 15 years professional experience. 44.2% of hospital staff have worked 11 and more years in one unit. More than 6% did not response to questions about the work experiences (Table 2). 49.7% respondents have been working 40 and more hours per week in work unit.

Patient safety in Trnava regional hospitals was evaluated as being "Excellent/Very Good" by 61,9% of healthcare workers, "Acceptable" by 35% of staff. Only 4 respondents have perceived a "Failing" patient safety grade. The total patient safety culture score of the questionnaire was 54%. The highest scores were obtained in specific dimensions as overall perception of safety (74%) and handoffs and transition (70%). According to this survey, health care workers considered teamwork across hospital units (35%) and non-punitive response to error (37%) as being weak areas, from their perspective (Figure 1). The Cronbach's alpha coefficient was between 0.21 to 0.93 and internal consistency reliability for all items was low ($\alpha = 0.63$). The significant Cronbach's alpha coefficient had the dimensions, frequency of events recorded and teamwork across units (0.74 – 0.93) in all 3 hospitals. Hospital staff also admitted to being fearful of adverse event reporting in all hospitals. Significant differences were observed between hospitals in dimensions: hospital management support for patient safety (P - value = 0.020) and teamwork across hospital units (P – value = 0.022). The significant differences were also observed between 2 hospitals and in the same dimension.

We compared physicians and nurses opinions of patient safety culture. Our survey sustained differences in 7 dimensions in individual hospitals. The significant differences were in communication, reporting adverse events, hospital handoffs and transitions, perception of the patient safety grade and managerial action promoting safety. Physicians had significantly more positive opinions in these dimensions than nurses. Even thought overall average staffing were more positive from nurses, in 2 hospitals nurses perceived workload as being very negative (Table 4).

The majority of hospitals in many countries have been solving adverse events reporting. Our surveyed hospitals have the same problem. 82.1% of healthcare workers reported that no one adverse event was reported in their working area in the last 12 mounts. 10.3% of staff knew that in the last year 1 or 2 adverse events were reported in their unit. It was interesting that 12

respondents (1.ľ2%) of our survey, marked answer of 21 and more reported adverse events in their work area (Table 5).

Discussion

The questionnaire from AHRQ is a well-know tool for assessing the safety culture of hospitals as a whole or for specific units within the hospitals. Since 2004 it has been using in more than 500 USA hospitals and also by many countries of the European Union and in worldwide. This internal assessment of healthcare centers detect strengths and weakness of organizational culture between staffs and so uncovers important issues to improve quality of health care in organization. On the other side, culture strengths are important factors that can be used to predict the behavior and attitude of caregivers. Strong organizational culture improves better health care quality for patients.

Our survey found out strengths of three Slovak hospital only in overall perception of safety and in handoffs and transition. The overall perception of safety was confirmed with a high score of patient safety grade in units. The handoffs and transition was more positive Areas that could be more improve are mostly teamwork between units and adverse events reporting without perceiving a potential punitive impact to staff. This areas are problematic also in Turkish hospital [6], hospitals in Saudi Arabia [7], Belgium [8], Iran [9] and Mexico [10].
The most different opinions between physicians and nurses were in the smallest hospital. Nurses perceived significantly more negative staffing, communication about errors and cooperation across units. The comparisons across professions were done also in Turkey and composite scores of communication openness and also feedback and communication about error were significantly different between staff [11]. A more negative attitude of nurses was also confirmed in German survey [12].

Patient safety grade was evaluated as being “Excellent/Very Good” by 62% of hospital staff. The similar results were found in Saudi Arabia hospitals, where 60% of respondents evaluated overall patient safety grade as excellent/very good, but 33% of respondents evaluated it as falling or poor [7]. In Mexico, the response regarding the level of patient safety were recorded as acceptable by nearly 47% [10]. Turkish respondents were divided to 2 groups, the one group has positive opinion (42%) and other group was neutral and thought that patient grade in their work area is acceptable (49%), some of them (9%) was marked it as poor [11].

Even thought that frequency of reported events was evaluated as good by 58% of staff, in the last 12 mounts 82% healthcare workers did not know about any reported events. Probably “number of events reported” is not useful as an outcome measure, but this problem was confirmed by this tool in other countries, e.g. in Saudi Arabian hospitals [7] and in Turkish hospitals [11]. The hospital system of adverse events reporting is better in the Netherlands [13] and USA [14].

Conclusion

Our internal assessment in Slovak hospitals found strengths in relation to positive patient safety perception in hospital units, continuously improving patient safety and in transferring patients, their personal possessions and information between hospital units. On the other side, hospital staff admitted to being fearful of adverse event reporting. A substantial percentage of these events are never or rarely reported in many countries. The important issues in hospitals were also insufficient support of hospital management in patient safety activities and cooperation among hospital units. The outcomes of our survey could be useful for hospital management teams to increase incentives for patient safety and for the maintenance of patient safety culture. Last but not least to support good practice on how to improve healthcare quality and safety in hospitals. We hope that patient safety issues in Slovak hospitals will not stay only in these survey results but that these outcomes will also increase incentives for patient safety and for the maintenance of patient safety culture in hospitals.

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Table 1. Characteristic of respondents by their primary work area

Primary work area/unit	Frequency N	%
Internal medicine	234	17.9
G/O and Newborn*	159	12.2
Paediatrics	44	3.4
Surgery	141	10.8
Intensive care unit (any type)	114	8.7
Infectology	10	0.8
Rehabilitation	71	5.4
Laboratory	27	2.1
Anesthesiology	2	0.2
Emergency department	19	1.5
Urology	27	2.1
Pharmacy	11	0.8
Neurology	47	3.6
Radiology	36	2.8
Traumatology	48	3.7
Geriatrics	40	3.1
Other	220	16.9
No response	55	4.2

* G/O and Newborn = Gynecology/ Obstetrics and Newborn unit

Table 2. Characteristic of respondents by their professional and work unit experience

Professional experience (year)	Frequency N	%	Work unit experience (year)	Frequency N	%
<1	54	4.1	<1	84	6.4
1 - 5	292	22.4	1 – 5	361	27.7
6 - 10	191	14.6	6 – 10	197	15.1
11 - 15	202	15.5	11 – 15	172	13.2
16 - 20	162	12.4	16 – 20	154	11.8
21 and more	318	24.4	21 and more	250	19.2
no reply	86	6.6	no reply	87	6.7

Table 4. Comparison of PS culture assessment between physicians and nurses in survey

Dimension	Hospital			
	A	B	C	Total
Communication Openness	$p \leq 0.001$	n.s.	n.s.	n.s.
Feedback and Communication about Errors	$p \leq 0.01$	n.s.	n.s.	n.s.
Number of Events Reported	$p \leq 0.001$	n.s.	n.s.	n.s.
Hospital Handoffs and Transitions	n.s.	$p \leq 0.01$	n.s.	n.s.
Patient Safety Grade	$p \leq 0.01$	n.s.	n.s.	n.s.
Supervisor/manager expectations and actions promoting patient safety	$p \leq 0.05$	n.s.	n.s.	n.s.
Staffing	$p \leq 0.001$	$p \leq 0.05$	n.s.	n.s.

Table 5. Number of reporting adverse events at the last year by respondents

Number of adverse events	%
None	82.1
1 to 2	10.3
3 to 5	4.1
6 to 10	1.5
11 to 20	0.9
21 and more	1.2

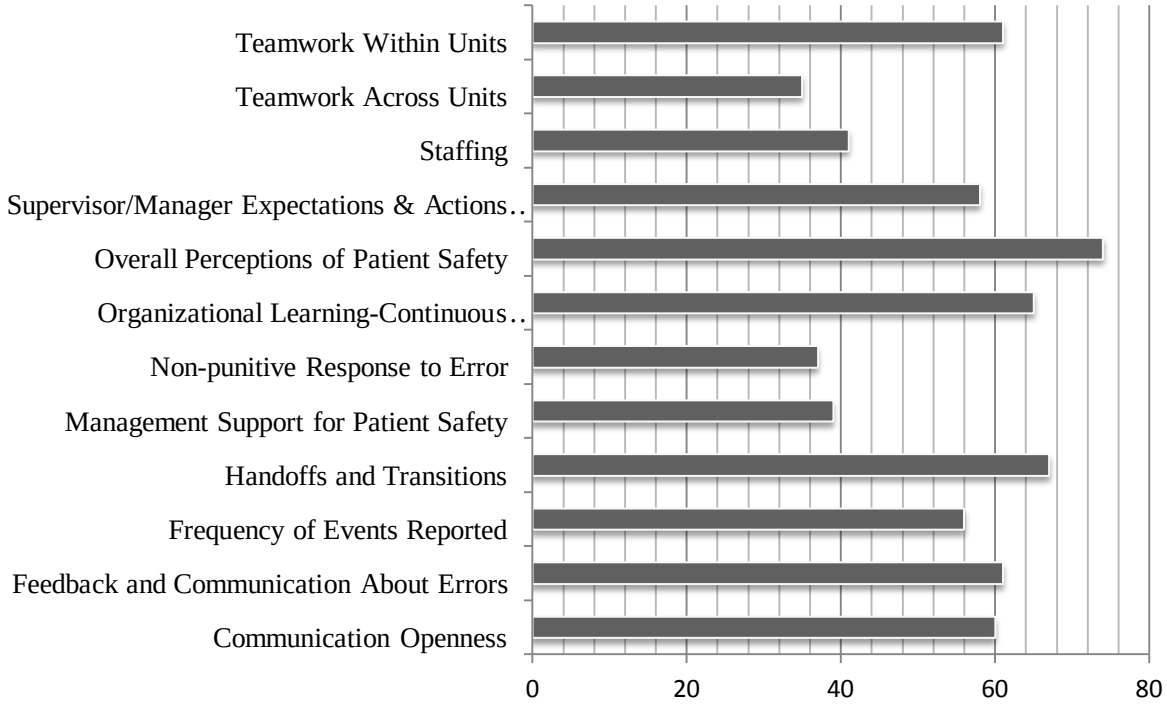

Figure 1: Assessment of 12 PS culture dimensions by all respondents
(average percent of positive response)