Special Article

The Role of the Hospitalists in the Workforce to address the Shortages of Intensivists in Hospitals Here in Thailand

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The problem of a shortage of intensivists in Thailand is increasing annually. As stated in The Thai Society of Critical Care Medicine Database, 2013, the number of qualified intensivists currently is 163, working in 76 provinces in Thailand. This disproportion in the ratio of intensivists has affected patient outcomes. In an attempt to solve this problem, there has been an increased number of hospitalists working in place of the intensivists.

Medical specialties are not available in many hospitals of Thailand. Thus, the hospitalists, who care for Intensive Care Unit (ICU) patients, are not trained to care for the acutely ill, hospitalized patients. Their competencies vary depending on their experience and training. In other countries, there has been evidence that properly trained hospitalists can work effectively in the ICU.

This awareness of the importance of intensivists in Thailand is one of the stifling factors; the improvement of the hospitalists, determining the hospitalists' workforce and increasing the number of the intensivists to match future demands are needed.

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The problem with the shortage of intensivists is increasing every year. In many countries, including developed countries like the United States of America, this problem is dramatically increasing[1-4]. The reason is that there has been recent research that supports the benefits of intensivists working in the ICU, either full time or as after hour consultants[5-7]. To improve patient outcomes, there are a few solutions that attempt to better the quality of care in the hospitals without intensivists, globally. One suggested solution is the development of hospitalists to fill ICU staffing shortages.

The current situation in Thailand

Currently in Thailand, ICU management varies depending on the differences in the resources of hospitals. In the large hospitals or University-based teaching hospitals, there are different levels of ICUs. These range from 'closed ICUs' with continuous care from intensivists to 'semi-closed ICUs' that are staffed with intensivists and consultants. On the other hand, in the smaller hospitals that have limited resources, the management of ICUs is the responsibility of the primary doctors who have admitted their patients. The general physicians and interns also maintain the responsibility for patient care in these cases. This is more predominant in emergency conditions for patients who are under the supervision of their primary doctors. Most of these hospitals do not have intensivists or the intensivists that are on staff are unable to cover all of the ICUs' responsibilities. Many surgical ICUs are open units in which all qualified attending physicians may admit and care for their patients without the ward staff or intensivists present at all times. This has created questions about the quality of care evident in ICUs[8,9].

There is evidence to show the advantages of closed ICUs on patients' mortality. One study has demonstrated the reduction of crude hospital mortality rates from 28% to 20% following a change from an open ICU to a closed ICU ($p = 0.01$)[10]. In Thailand, one

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study demonstrated a reduction of overall ICU mortality rates from 27.4% to 23.4% (p = 0.03) following the transfer of patients from an open to a closed ICU[11]. Due to the shortage of intensivists, an ideal closed ICU seems to be a possibility solely in large hospitals or University-based teaching institutions.

The disproportion between the supply and demand of intensivists is not a major problem unique to Thailand. In the United States of America, the growing shortage of intensivists is well documented. Concurrently, there has been an increase of hospitalists in an attempt to alleviate this problem. Hospitalists in the USA are physicians who focus on the care of hospitalized, medical patients. The hospitalists are general internists, family practice doctors or medical subspecialists who have opted to undertake hospitalist workloads. One such task is assuming the responsibility for the staffing of ICUs. They act as first responders for in-house emergencies and often cover the patients in ICUs when intensivists are unavailable. Currently, there are training programs for inpatient medicine in the USA in an attempt to improve the quality of care for hospitalized patients in the wards and ICUs.

In Thailand, the resolution of the shortage of intensivists has not been sufficiently addressed. As stated in The Thai Society of Critical Care Medicine database of 2013, the number of qualified board of intensivists numbers 163. There are 76 provinces in Thailand. When comparing of the total number of provincial hospitals versus the total intensivists, the severity of this disproportion is clearly evident. Moreover, most intensivists stay and work at University-based medical centers or tertiary hospitals.

Limitations of the hospitalists

Many hospital medical specialties are not available in Thailand. Thus, the hospitalists who care for Intensive Care Unit (ICU) patients are not trained to care for the acutely ill, hospitalized patients. Their competencies vary dependent on their experience and training. The skills and knowledge of critical care medicine are limited to the critical care training programs as seen in Table 1. However, several hospitals assign internists certified by the Internal Medicine Board to work as hospitalists in the ICU as they have spent a great amount of time taking care of hospitalized patients during the course of their training.

The need for specific knowledge and skills are essential for working in the ICU. Some of these are: the monitoring and assessment of hemodynamics, respiratory management, airway management, and central venous catheter insertions. Many new methods have been developed to assist the intensivist in the treatment of critical patients. These include techniques for advanced hemodynamic, respiratory or neurological monitoring and the use of ultrasonography[12-14] for rapid assessment and determination of certain procedures and treatments. Based on these essential characteristics of specialized ICU physicians, not all hospitalists have been able to work competently in the ICU. Internal medicine, general surgery, anesthesiology, pulmonary and cardiology specialists share some of the similar concepts with intensivists. Appropriately, they all have the opportunity to pursue further education to obtain a diploma from the Thai Subspecialty Board of Critical Care Medicine. There is no condensed pathway established to train hospitalists to work as intensivists. However, hospitalists can obtain additional knowledge, skills and experience to aid them with the completion of a short course from workshops or at The Annual Congress of The Thai Society of Critical Care Medicine and other related seminars.

However, one study found that the after hour staffing with in-hospital intensivists has not improved patient outcomes when compared to phone consultations by medical residents to the intensivists who were present during normal working hours[15]. Another study has shown that the standard mortality rates were nearly identical for patients admitted after hours, per a phone consultation with an intensivist; and the patients admitted during normal working hours[16]. This finding supports the benefits of the phone consultations after hours and allows the hospitalists to work effectively under the supervision of the intensivists.

If hospitalists can develop all of the essential skills and characteristics of the intensivists, this is one possible solution to this problem. There exists additional research that shows that the adjusted mortality rates and lengths of stay (LOS) were not significantly different between hospitalists or intensivist led ICU models[17]. However, we have a need to address the problem of developing hospitalists in our country to be as competent as the hospitalists in the USA, in which this research was done.

One of the main problems is that we continue to ignore the role of intensivists in Thailand. The career path of this specialty is still being debated in some areas, particularly, in areas away from the University-based medical centers and the large tertiary care hospitals. This ignorance of the importance of the intensivists in ICUs is one of the factors that

undermines attempts for the improvement of hospitalists. The necessity for hospitalists as an integral part of the workforce to increase the number of intensivists is required to meet future demands.

Opportunities to improve patient outcomes during this period of limited resources

To help solve the problem of the shortage of intensivists, aside from attempts to increase the number of intensivists or the establishment of hospitalist training programs, hospitals under the ministry of public health should approach the situation as follows:

- Forming teams that combine multi-specialist physicians from the disciplines of general internal medicine, pediatrics, emergency physicians, general surgeons, anesthesiologists etc. These teams should also include properly trained critical care nurses. This team should be established as a hospitalist team or a rapid response team.

- Set the aims and responsibilities of the team.

- Establish tools for tracking and initiating the response of the team that can be easily accessed by the general wards. Set in motion an early warning system (Fig. 1).

- Set up work rotation schedules for the teams as an intra-hospital emergency teams (8 hours per shift, 3 shifts per day).

- Establish appropriate, evidence-based standing orders and protocols for the initial management of acutely ill patients.

- Establish Network collaboration teams for improving community-based physician practices by providing protocols and rapid, effective consultation procedures.

This team will assist the intensivists in the early detection and resuscitation of deteriorating pa-

Table 1. Critical care medicine training in Thailand

Specialties and sub-specialties	Duration	Minimum ICU rotations
Internal medicine	24 months	Medical ICU 7 months
General surgery	24 months	Surgical ICU 7 months
Anesthesiology	24 months	Medical ICU 7 months
Pulmonary medicine	12 months	Surgical ICU 4 months
Cardiology	18 months	Medical ICU 7 months
		Surgical ICU 5 months
		Medical ICU 3 months
		Surgical ICU 5 months
		Medical ICU 4 months
		Surgical ICU 6 months

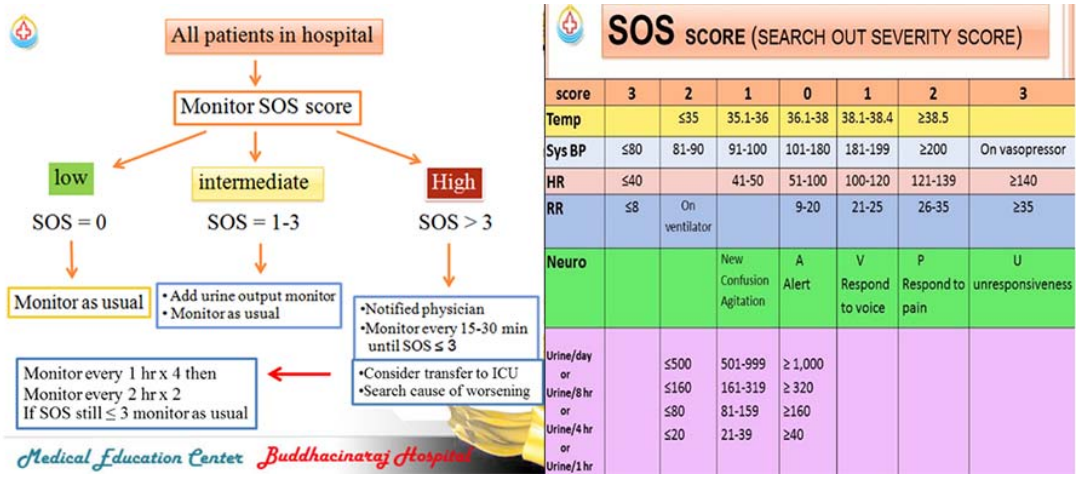

Fig. 1 Early warning system.

tients found in general wards (intensivist extender role)[18,19]. The team will also initiate early ICU transfer and effective supportive care for end-stage disease patients or patients at the end-of-life. This team will choose the appropriate patients to transfer to the ICU and maximize the benefits of ICU care for all patients (gatekeeper role). This strategy will help to decrease the demand for ICU beds during times of high ICU census and allow the intensivists to effectively focus on the critically ill patients within the ICU.

Conclusion

The improvement of the quality of care in ICU is the primary mission of the intensivists in our country. The hospitalists, who have competencies comparable to intensivists, with access to appropriate consultation as well as being an integral part of the multidisciplinary team during this period of an insufficient number of intensivists, may be one solution to this problem.

Potential conflicts of interest

None.

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บทบาทของทีม hospitalist ในโรงพยาบาลที่ขาดแคลนแพทย์เวชบำบัดวิกฤต

ชวิกา พิสิฏฐศักดิ์, รัฐภูมิ ชามพูนท, สัณฐิติ โมรากุล

ปัญหาการขาดแคลนแพทย์สาขาเวชบำบัดวิกฤตได้ทวีความรุนแรงเพิ่มขึ้นเรื่อย ๆในทุกปี จากข้อมูลของสมาคมเวชบำบัดวิกฤตแห่งประเทศไทยในปี พ.ศ. 2556 พบว่ามีจำนวนแพทย์เฉพาะทางสาขาเวชบำบัดวิกฤต 163 ราย จาก 76 จังหวัดทั่วประเทศ อัตราส่วนที่ไม่เหมาะสมนี้ทำให้มีการแก้ปัญหาโดยการมอบหมายให้แพทย์ประจำโรงพยาบาล (hospitalist) เป็นผู้ทำงานภายในหออภิบาลผู้ป่วยวิกฤตแทนแพทย์ เวชบำบัดวิกฤต ซึ่งในต่างประเทศได้มีหลักฐานแสดงถึงการทำงานของแพทย์ประจำโรงพยาบาล ภายในหออภิบาลผู้ป่วยวิกฤตได้อย่างมีประสิทธิภาพ อย่างไรก็ตาม ยังไม่มีหลักสูตรการฝึกอบรมเพื่อเป็นแพทย์ประจำโรงพยาบาลในประเทศไทย

ความไม่ตระหนักถึงความจำเป็นในการมีแพทย์เวชบำบัดวิกฤตภายในประเทศไทย เป็นปัจจัยหลักของปัญหาการขาดแคลนแพทย์สาขาเวชบำบัดวิกฤต การที่ยังไม่มีหลักสูตรการฝึกอบรมเพื่อเป็นแพทย์ประจำโรงพยาบาล เป็นปัจจัยที่ส่งเสริมทำให้ไม่มีแพทย์ประจำโรงพยาบาลที่ทำหน้าที่ภายในหออภิบาลผู้ป่วยวิกฤตได้รวมทั้งปัจจุบัน ภาระงานของแพทย์ประจำโรงพยาบาลในตำแหน่งนี้ยังไม่ชัดเจน จึงควรต้องมีการแก้ปัญหาเหล่านี้เพื่อเพิ่มจำนวน แพทย์เวชบำบัดวิกฤตและแพทย์ประจำโรงพยาบาลที่ทำหน้าที่ภายในหออภิบาลผู้ป่วยวิกฤตได้ต่อไปในอนาคต