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Published online 2022 September **Editorial**

Estimation of Specialized Staff Required in Different Wards of the Hospital

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Abstract

Background: Having sufficient skilled manpower in the field of health is one of the leading factors for improving the quality of public service delivery. The shortage of manpower may impose costs on health and society.

Objective: The current study is descriptive-analytic to determine the needs of human resources in hospitals with a high degree of national accreditation.

Methods: The force estimation was used in this study based on following methods: traditional, WHO guideline, system-oriented attitude determination, California index, health care and treatment, Abdullah and Levin, and Young and Wolf. Force estimation is different with each method.

Conclusion: The employees of Razavi hospital work under pressure due to a shortage of manpower. Proper management and planning of human resources are improving the work efficiency by ensuring the optimal volume of work. The population of this study is a private hospital with several available beds.

Keywords: Force Estimation Methods, Human Resource Management, Quality Improvement, Standard

Background

Human resources is an important input and key factor in health centers to determine the cost and quality of service delivery. Human resources form the basis of the health system and the organization will fail if there is no plan for human resource management. Designing and using a correct appointment is of particular importance. Nursing services are the most important components of health care providers and nurses working in technical staff. Using health technologies and providing services to promote the health level is the responsibility of this part of the healthcare system. (Jabbour:2012)

However, personnel costs are usually between 138 and 96 percent of the total current spending in the health sector (Razavi and others: 2006). Neglecting the number of human resources required in hospitals leads to inefficiency of services in addition to negative effects on community health considering the nature of the health system. Providing correct information about the number of human resources is an essential factor for the director and hospital officials in managing the hospital, efficiently. (Gauleh et al: 2015)

This information is based on the sensitivity of the working area of the medical group which is directly related to community health. It has been designed and applied to estimate the health workforce, globally. Using each factor within different conditions is not suitable for specific temporal and spatial conditions. (Jabbour:2012)

Problem statement

Human resource management is very essential due to the importance of human development in the Millennium Development Plan. Planning for human resource development in health institutes and its benefits is a growing interest. The success rate of national health systems depends on their workforce. Human resource management is focused on service delivery which has been considered in many studies. This issue has recently attracted the attention of policymakers to improve accessing health services, developing services innovation, and providing services based on patients' needs. Human resource management policies are based on reforms. (Niazi:2015)

Staff productivity came under the spotlight during and after World War II. Also, considerable attention dedicated to the possibility of recruiting qualified managers provoked a shortage in discovering talents required to produce goods and services. New technologies and emphasis on behavioral aspects of work complicated human resource planning tasks. Human resource planning is a system that connects the organization to its environment in later developments. At the time, it involved companies in anticipating their future human resource requirements and projecting the in-house supply of their staff to address those needs. They defined the gap that existed between what is needed and what is available. Human resource planners then formulated plans for recruiting, selecting and replacing new staff. They also developed strategies for training and improvement, while predicting necessary promotions and transfers.

New aspects of human resource planning emerged in the 1970s. While some organizations adopted new strategies the most still followed their old conventions. For example, the term "workforce planning" was substituted with human resource planning by career pathing, activity analysis, and image reconstruction jobs in recent years.

Human resource planning implies a broader insight into striking a balance between supply and demand or quantitative predictions. The new term shifted its focus from a process-based perspective to a more holistic approach which entailed anticipation of needs and program design. The term "human resources" was also recognized as an efficient strategy to undermine the conventional view of human resources and highlight a positive view of staff as the main assets of an organization. Effective human resource planning is a process for analyzing an organization to change the conditions and undertake the necessary activities to address these needs. Human resource planning is essentially a two-step process that emphasizes responding to the inside and outside demands of an organization instead of using techniques or systems. Demand forecasting allows prioritizing and allocating resources to domains where they are most required. The basic context for management was prioritized during the seventeenth and eighteenth centuries.

1- Demand forecasting: Planning and controlling recruitment and organizational needs based on situational analysis.2- Performance management: Improving the performance of individuals and generally the organization.3- Career management: selecting, planning, and developing one's actions in accomplishing an organization's future goals.

Method of human resource planning currently relies on forging a connection between environmental and organizational factors as well as personnel programs. This method defines HR needs within the general organizational requirements so that they can be addressed those needs. Thus, training reinforcement, recruitment, service compensation, and other similar activities are integral parts of a dynamic process. Training programs, for example, provide no guarantee if they fail to demonstrate the skills required in performing the tasks. (Walker: 1996: 19-17)

Definition of human resource planning (HRP): The basis of all activities is human resource planning and several related definitions have been proposed in HRM. Appointing the best candidate for the right job at the right time is a comprehensive definition of HRP. HRP is the discovery and recruitment of the required staff according to the changes and developments of the organization in the future which is performed in two stages: Planning human resource needs and planning human resource supply (5).

HRP is a means to an end like any type of planning. HRP is ensuring the recruitment of human resources that can undertake all the activities needed to accomplish the goals of the organization. The term manpower was commonly used during World War II, but the concept became less popular from the end of the war until 1960. Since then, manpower was distinctly defined based on the type of attitude and perspective. Manpower is an element of economic production that is used interchangeably with "labor force" in economists' analysis.

Some thinkers deduce concepts such as human resources, workers, employees, staff, or the HR office from the term manpower. Multiple interpretations of a word provide appropriate perspectives on the definition of that term. Human resource planning could be considered as an alternative program from the standpoint of industrial relations.

In this case, HRP involves reflection on human recruitment policies, development of staff promotion programs, analysis of the reasons for resignation, and the relationship between payment policy and recruitment. Another approach treats HRP as a sub-process of the recruitment process which is responsible for assessing skill levels and analyzing current and future positions at the organization. Another definition of HR is individuals' participation in the development of the organization. HRP is improving the ability of an organization to attain its goals through greater participation of human resources in the present and future by a process-based approach with time constraints. It is often posited that achieving business longevity depends on adopting strategic planning. This concept is considered as a sub-process of the staff recruitment in HRM, which is responsible for measuring the quantity and quality of staff required in the latest theories of human resources planning (3).

Human resource planning process: HR of an organization should be regarded as a type of investment as the tools and machinery are replaceable, but skilled human resources are scarce. Therefore, HR and their potentials must be given importance as the cornerstone of the health system (16). As the development of any society is directly linked to the proper use of human resources, each organization requires sufficient human resources for surviving and progressing (18). The World Health Report 2006 concentrated on human resources in the health sector in the last decade (2006 to 2015) (Anonymous: 2006.)

The researchers maintain that developing an organization is closely related to four factors of human capital, equipment, programs, and discreet management that contribute to developing that organization. (23)

Human resources planning comprises two main principles:

1- Forecasting and estimating human resources needs in an organization 2- Considering human resources and using them properly

Therefore, human resource primarily plans to explore these two major factors quantitatively and qualitatively and to propose policies and criteria to fill the gaps of needs by resources at its disposal. Human resources planning usually involves anticipating the required HR required and balancing labor supply and demand with development goals. The process of HR planning at the macro level includes the following steps:

1- Predicting the level and pattern of future economic activity (growth objectives). Estimating long-term demand for qualified HR at the ministerial level and based on macroeconomic needs.2- Setting goals for jobs for which planning is appropriate.3. Turning objectives into occupational demands and estimating the number of people in each job category to achieve the planned outcomes. These figures are usually extracted from macroeconomic projections. 4- Transforming occupational demands into

demand for competent HR.5- Estimating the number of HR from all available graduates (including retirement, death, etc.).6- Comparing the number of survivors with the required figures.7- Deducting the number of graduates who fail to enter the job market.8- Classifying graduation year during the program. 9- Using the desired annual number of graduates to estimate new students.10- Estimating the new students required for each field of study at universities.

Finally, HR planning in an organization consists of two main steps:

Firstly, studying environmental variables that affect HR planning. These variables comprise two groups of external and internal factors. External factors that affect HR planning include government, culture, stakeholders, competitors, customers, technology, as well as geographical and economic variables and conditions. In-house or organizational factors that influence HR planning include goals, strategies, policies, and organizational size.

The second part of HR planning conducted in parallel with strategic planning and includes the following steps:

1- Estimating available HR (analysis of the current situation of HR).2- Predicting required HR.3- Comparing available and required HR, which determining the shortage or surplus of HR or its supply and demand.4- Setting goals and policies about the quantity and quality of HR.5- Developing executive plans (selection, recruitment, employment, transfer, training, and improvement programs).6- Controlling and evaluating the extent to which the goals of the HR programs have been accomplished and the strengths and weaknesses of the programs (2).

HRM and health system

Management theorists have always sought to find a theoretical relationship between HRM strategies and organizational performance. Studies indicate that there is a broad relationship between HRM and organizational performance. (West et al., 2002; Huselid, 1995; Arthur, 1994) This issue has also been debated in the health systems of different countries. For example, some argue that collaboration between HR managers and hospital executives is a key factor for enhancing their ability to perform successfully. (Whittaker & Marchington: 2003)

Employing more than 320,000 people in the Ministry of Health and Medical Education of Iran makes this organization one of the largest service sectors in the labor force. The national health system has the most complex economic structures in terms of HR in each country. The system encompasses a wide spectrum of people, from administrative staff to the most sophisticated medical specialties, which challenges workforce planning. The national health system is a public sector distinctively different from other sections. The most notable of these distinctions are restrictions, political implications, credit constraints, extensive geographical activity, and the like. Nowadays, HRM is an essential tool for boosting the efficiency of a key production element i.e. human resources in organizations where HR plays a special role. The service sector management is greatly important due to the fundamental role of human resources in the production process. The importance of HR varies in different service sectors. Many countries have underlined human capital in their development programs as the human dimension of development has become recently important. Education and health are two key aspects of human capital. Therefore, HRM will be extremely important in companies that deal with these two assets.

Healthcare Office Management and Planning Organization considered the number of needed nursing staff based on bed occupancy rate in 1997. A hospital with a bed occupancy rate of above 75 needs 1.5 nurses per bed, so 1.2 nursing staff per bed determines the organizational position. According to previous studies by the Ministry of Health, HR costs are about 55 to 60 percent of the hospital's total running costs. It is suggested that hospital managers consider the necessary standards and employ HRM models to control hospital costs and improve the quality and effectiveness of their staff besides demonstrating the importance of HR in hospitals. (13)

Many countries critically face HR challenges in the health sector including staff shortages, unbalanced skill sets, unequal geographical distribution, poor working conditions, poor knowledge and skills of the employees. (12) Additionally, the major problem of the country's hospitals is the shortage of skilled staff or its improper distribution (24) (21). A hospital can be effectively organized, equipped, and decorated, but it fails to fulfill its mission if the quality of nursing care is undesirable. One of the main components of the hospital is nursing services which constitute the largest group of technical staff. Ideal characteristics of nursing as a caring profession are the ability and commitment to respond compassionately to the needs of patients and the community. Determining the staff needs is common in many hospitals. The complexity of the hospital system can be summed up in two points: the low number of hospital beds in the health sector and the type of admission and related policies and the provision of outpatient and inpatient services. (20)

Nurses generally offer two types of care: direct nursing care which is intended to meet the physical, emotional, and social needs in the presence of patients, and indirect one in which the presence of patients is not necessary, but it is effective (e.g. drafting nursing education programs, nursing assessment, and evaluation methods).

Factors associated with the number of nurses required to provide optimal care include the type of service, disease severity, experience and training of nurses, quality of supervision and monitoring, access to health care staff, the architecture of nursing units, physical facilities, working hours and shifts, the usual routine of the hospitals, the method of allocating care, and standards of optimal care to determine the type of work and the number of nurses. A study on determinants of nursing hours suggests that nursing care for patients is directly related to the severity of their illness. Nurses spend less than half of their time in direct care and expend 30-25% of their time on planning, coordinating, and communicating. As employing highly educated nurses is both inefficient and costly, tasks like

drafting charts, preparing the dietary list of patients, sending samples, bed-making, housekeeping supervision, guiding patients and their relatives, and displacing equipment could be assigned to low-skilled employees to improve the efficiency of nursing activities. Wasting time is more prominent in outpatient services. In this regard, 7% of nurses are engaged in care provision, 28% in management and support, 4% in cleaning, and 29% in taking care of patients on the waiting list. In previous studies, analyzing the working hours of a nurse reveals considerable variation which is due to poor planning of human resources. Most studies estimate the number of required nursing staff by defining different categories of patients and their dependence on various wards of the hospital. The study was conducted in a specialized hospital with 347 cases. (14)

Health professionals are the major production asset in health enterprises. When these firms efficiently manage their resources, the result will be improved quality of services and subsequently more competitiveness. A glance at the problems of health enterprises indicates that HRM is not properly implemented in these centers. Although the majority of managers tend to stress the importance of HR, they are often unaware of the management system, strategies, and processes needed to cultivate this key factor in production. HRM is relatively weak and disorganized in the health sector of many developing countries and lack of motivation is a serious challenge for them. Employees are one of the crucial resources of the health care system, which is in charge of exploiting health technologies for managing and providing services to improve health conditions. Personnel costs usually account for 60 to 80 percent of the total current expenditures of the health sector. Therefore, training inappropriate human resources have adverse effects on public health in addition to wasting resources. (Baskha: 2010)

Basic elements of HRM:

HRM is the comprehensive use of management systems, policies, and techniques to attract, support, and nurture the workforce required to achieve the desired objective of the organization. This definition of HRM emphasizes integrating three basic elements in the organization with utmost importance. These three elements studied the distribution of nurses in selected hospitals in Ahvaz and Ilam districts (11). They found that the distribution of human resources in 5.89% of hospital wards is lower than the standard set of the Ministry of Health and only 2% of wards comply with the defined standards. Meanwhile, 8.5% of hospitals had excess nurses at hospital wards. The greatest nursing shortage was observed in the emergency wards of Ahvaz and Illam hospitals.

Reported a surplus of support staff in hospitals compared to other units similar to the present study (8). They argued that this excess staff could adversely affect the service production in hospitals. Aiken et al. (2011) studied 9 hospitals in European countries reported that expanding the nursing workload increases the risk of death in patients who are hospitalized for less than 30 days. They also stated that a 10% increase in the number of nurses are the system, management, leadership policies and techniques. An efficient HRM system should support appropriate human resource policies.

Such human resources policies require a comprehensive HRM system that needs experienced managers at different levels to establish strong communication with their employees and fulfill their demands. Additionally, the importance of an HRM system should be emphasized to recognize its necessity for the organization at the highest organizational levels. When HRM functions properly in the organization, the system improves organizational performance by improving skills, job satisfaction, and employee motivation of employees. (10)

Managers are often unable to receive systematic feedback and proposed policies since many organizations have low HRM capacity. The personal experience of managers will be a key factor in making decisions about human resources due to the lack of HRM systems. Several HRM benefits have been identified for deploying in organizations.

A practical framework for human resources in the health sector:

Supplying human resources successfully for businesses focusing on HRM depends on a variety of factors. Adequate employment policies, sufficient funding of human resources, cooperation with training and internship institutions for employees, partnerships with private companies, non-governmental and non-profit institutions are among these factors. HRM predominates this process due to its pivotal role in ensuring the integrity of an organization.

Multiple indices influence employee satisfaction in an enterprise. Although many people insist on fair wages, many studies have illustrated that payment is not the only determinant of job satisfaction. However, fair pay encourages the employees to commit more to the goals, and the workforce is always striving to increase its productivity by updating its knowledge and capabilities. Keeping knowledge and skills up-to-date is vital for healthcare providers. The specialists' up-to-dateness can be a great asset to the company and society as medical knowledge is constantly growing. (Baskha: 2010)

with a bachelor's degree would reduce patient mortality of patients by 7%. Moreover, patient mortality in hospitals where 60% of the nursing staff had a bachelor's degree was 30% lower than in hospitals with those of 30%.

However, mortality and inefficiency of resuscitation methods drop significantly (4%) with a 10% increase in the number of nurses with a bachelor's degree according to the data released by the American Hospital Association. The results of the studies will be useful for improving the use of existing nursing staff.

Objectives

Hospitals are the most expensive sections of health and treatment systems and human resources are the most valuable component of production and service. Increasing workforce productivity is extremely important as the staff

costs account for more than 60% of the total hospital costs. An effective strategy to improve using this valuable resource is standardizing and distributing the number and composition of human resources.

The present study aims to strengthen HRM, distribute staff in various shifts and hospital wards according to the workload and improve the quality of clinical services to patients in each ward.

Materials and methods:

This is a descriptive-analytical study that was conducted to determine the number of nursing staff in hospitals with a first-grade national accreditation in 2019. The results of this study could be used to improve the composition and number of nursing staff. The study population was a multi-specialty private hospital with 347 beds. The workforce estimation methods used in this article are as follows: the traditional method, WHO guidelines, a system-based approach, minimum standard, California, Ministry of Health, Abdullah and Levin, and Young and Wolf. The workforce estimation was conducted using 8 methods. The number of staff in each ward is generally determined based on the workload and the standards; however, the results of workforce estimation by each method might be different.

1. Traditional method:

• For every 8 general beds, 1 staff + a factor of 3.1

• For each shift and each 3 emergency bed: 1 staff + a factor of 3.1

• For each shift and 1 surgical bed: 1/5 + a factor of 3.1 per shift

• For every 2 dialysis beds, 1 staff + a factor of 3.1 per shift

• For every 2 CCU beds: 1 staff + a factor of 3.1 per shift

• For every 3 ICU beds: 1 staff + a factor of 3.1 per shift

2. WHO Guidelines

Useful hours of care per ward* Bed occupancy rate* number of beds/work hours

• Total care in internal and surgery wards over 24 hours = 5 hours of care in Obstetrics and Gynecology = 6 hours of care in pediatrics = 6 hours of care in ICU

• Total care during 24 hours in the operating room and recovery room care = 24 hours of total care in ICU = 24 hours

• Total care during 24 hours in the CCU = 24 hours of total care in 24 hours in dialysis ward = 24 hours

• Total care during 24 hours in Kidney Transplantation = 24 hours

3. The system-based approach:

Number of beds * (direct + indirect care hours) * days per year /staff working hours * of working days per year

• Direct care is provided personally to the patients

• Indirect care is provided to patients through intermediaries such as medication, counseling, planning, and reporting (according to studies, 0.7-1 hours for a patient)

Determining the caring time of each group of patients:

 Level 1 = Minimum care: 1 hour

 Level 2 = Relative care: 2.30

Level 3 = Complete care: 3.30

 Level 4 = Modified Intensive Care: 10-12 hours

Level 5 = Complete care: 8-24 hours

 Orthopedic wards with trauma: 4 hours per 24 hours

	Ward	Nursing staff	Number of patients		Ward	Nursing staff	Number of patients
1	ICU-CCU	1	2	11	Neonatal (incubator - Phototherapy)	1	5
2	Burn	1	2	12	POST ICU / CCU	1	6
3	NICU	1	2	13	Post Catlab	1	10
4	Emergency childbirth	1	3	14	Ecology	1	10
5	Postpartum	1	4 (mother and infant)	15	Internal and surgery	1	10
6	Maternity	1	8	16	Outpatient unit	1	15
7	Recovery	1	3	17	Psychiatry section	1	12
8	Emergency	1	6	18	Skin and eyes	1	12
9	Operating room	2	1				
10	Pediatrics	1	1				

4. Basic standard (minimum)

5. Coefficient set by the Ministry of Health:

Coefficient set by the Ministry of Health = 1.2

(Number of available beds + number of beds in the ICU) * 1.25 = number of required staff

6. Abdullah and Levin, and Young and Wolf:

(Number of beds × care hours) × days of the year (Days of the year - inactive days) × Working hours per shift

 Required care hours = 4.7 × number of beds.

 4.7 is the average amount of direct care per patient per day proposed by Abdullah and Levin and recognized by the nursing community.
 According to the nursing professionals, 55% of the staff should be professional and 45% non-professional nurses.

Direct care includes clinical services that are provided directly by the nursing staff at the patient's bedside to meet their physical, psychological, and social needs.

The average amount of direct care required by patients is 7.4 hours according to Abdullah and Levin.

Indirect care includes supervisory management, supervision, and the like. This type of care ultimately benefits the patient but is not provided at the bedside.

According to Young and Wolf, an average of 20 hours of indirect care is required for a 30-bed ward. The amount of indirect care is calculated using the same ratio in other wards.

According to Abdullah and Levin, 7.4 hours of direct care is provided for the patient under any circumstances.

According to Young and Wolf, the amount of direct care is 0.5 hours for self-sufficient patients (S.C) 1 hour for semi-independent patients (P.C), and 5.2 hours for dependent patients (T.C)

Young and Wolf claim that the indirect care rate for 30 beds is 20 hours.

 55% of the staff should be professional and 45% non-professional nurses under any conditions.

Total care is the sum of direct and indirect care that must be obtained from the formula presented by

Abdullah and Levin or Young and Wolf and then inserted in the first formula.

Factors for estimating the workforce using Abdullah and Levin's standard:

Possible annual leave	**15 hours**	**Working hours per nurse**	**8 hours**
Estimated sick leave	12 days	Days of the year	365 days
Estimated absence	3 days	Average care	4.7 hours
Estimated attendance in meetings	3 days	104 days	
Total unemployment days of staff	146 days	Holidays in the year	9 days

Findings:

The percentage of total bed occupancy in different wards of Razavi sub-specialty Hospital was 70% in 2020. Also, the bed occupancy rate of each ward is described in Table 1:

Table 1. The average bed occupancy rate of inpatient wards of Razavi Hospital in 2020

Ward	Total percent of bed occupancy		Ward	Total percent of bed occupancy		Ward	Total percent of bed occupancy		Ward	Total percent of bed occupancy
ICU2	76.3	6	P-ICU	30	11	Surgery 3	80.2	16	Internal and neurosurgery	77.6
SICU	80	7	Gynecological surgery	63.2	12	Surgery 4	81.4	17	hematology	95.2
ICU-OH	60.3	8	heart surgery	56.3	13	Heart 1	55.8	18	General	102.1
NICU	64.5	9	Surgery 1	75	14	Heart 2	58.1	19	Pediatrics	36.7
CCU	78	10	Surgery 2	75.5	15	Heart 3	49	20	Total hospital	70

Table 2. Number of medical staff in each ward of Razavi Hospital in 2020

	Ward	Number of medical staff		Ward	Number of medical staff
1	Dialysis	14	13	Surgery 1	29
2	Emergency	66	14	Surgery 2	24
3	ICU2	41	15	Surgery 3	26
4	CAT Lab 1 and 2	56	16	Surgery 4	27
5	SICU	70	17	Heart 1	25
6	ICU- OH	48	18	Heart 2	26
7	NICU	23	19	Heart 3	23
8	CCU	58	20	Internal and neurosurgery	27
9	Operating room	136	21	Hematology	35
10	P-ICU	16	22	General	37
11	Gynecological surgery	35	23	Pediatrics	15
12	Heart surgery	28	24	Maternity block	30

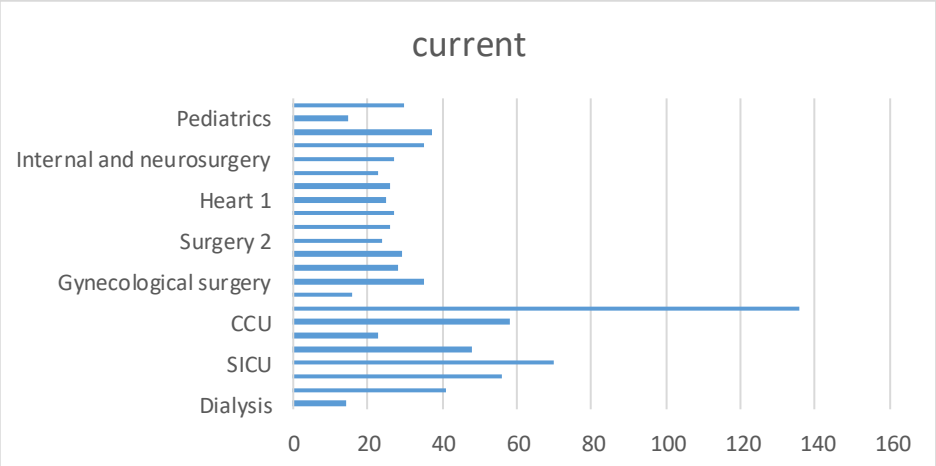
Table 3. Comparison of current and desired status of nursing staff in Razavi hospital after estimating the number of staff based on 8 standards

Ward	Current	Traditional method	WHO guidelines	System-based approach	Minimum standard	Ministry of Health Standard	Abdullah and Levin	Young Wolf
Dialysis	14	16	_	20	1	11	7	7
ICU2	41	9	44	48	16	34	27	29
Cathlab 1 And 2	56	27	15	12	82	24	_	_
SICU	70	14	92	100	102	50	57	60
ICU- OH	48	10	48	52	45	35	30	31
NICU	23	9	37	40	27	31	23	24
CCU	58	14	92	63	18	52	57	60
Surgery room	136	35	_	60	56	44	_	_
P-ICU	16	8	33	36	7	30	21	22
Gynecological surgery	35	8	21	16	1	48	21	24

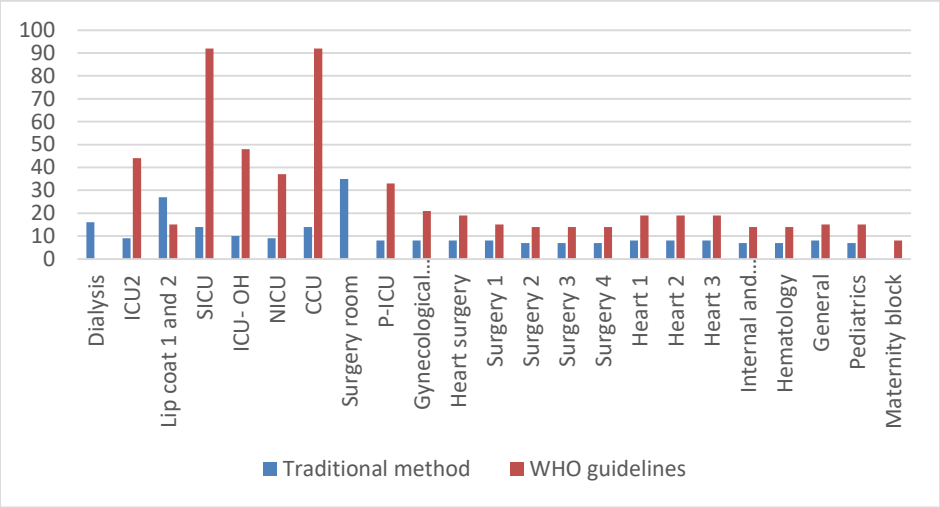
Heart surgery	28	8	19	18	1	50	23	26
Surgery 1	29	8	15	13	17	43	17	20
Surgery 2	24	7	14	13	23	41	16	19
Surgery 3	26	7	14	13	20	41	16	19
Surgery 4	27	7	14	13	16	41	16	19
Heart 1	25	8	19	18	32	50	23	26
Heart 2	26	8	19	18	35	50	23	26
Heart 3	23	8	19	18	31	50	23	26
Internal and neurosurgery	27	7	14	45	16	41	16	19
Hematology	35	7	14	13	12	41	16	19
General	37	8	15	14	13	44	18	21
Pediatrics	15	7	15	14	9	39	15	17
Maternity block	30	_	8	14	10	30	8	9

Discussion and conclusion:

According to the studies, the balance of manpower is particularly important in delivering hospital services so that imbalance affects the quality of service and subsequently affects patients' satisfaction. The distribution of human power in Razavi hospital is proportional to the standards of the ministry of health and the nurse needed for Razavi hospital is the one who is almost identical to the study results. The present study suggests that the distribution of human power in Razavi hospital follows a certain pattern.



Most aspects of human resource management were considered in this section regarding the importance of human resources in the health sector. An appropriate model of management elements in the human capital sector of this sector was presented by reviewing the studies conducted on human resource management in health organizations.



This model considers human resource management from five dimensions of political requirement, financing needs, improving education, improving human resource management, and participation. Effective fundamental actions were presented for improving human resource status in each of these sectors. The present study also indicates that the distribution of human resources in Razavi hospital follows a specific pattern. Human resources are the basis of the health care system and the organization will fail if there is no plan for human resource management. Nursing services are the most important components of the hospital services and nurses working in technical staff. Human resource development in the healthcare sector faces more challenges.

Limitations:

Lack of some international standard criteria with the status of domestic hospitals in terms of working hours and prevailing conditions in hospitals.

Lack of necessary infrastructure for creating global standard indicators in Razavi hospital.

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