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## RESEARCH ARTICLE

# AN ASSESSMENT OF MANAGEMENT COMPETENCIES AMONG HEADS OF PRIMARY HEALTHCARE INSTITUTIONS IN WESTERN PROVINCE OF SRI LANKA

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**ABSTRACT**

**Purpose:** Like any organization, Healthcare worldwide is also facing significant changes due to new technologies and innovations. To face these changes and to move forward Healthcare need a leader with the correct mix of Management Competencies. Lack of knowledge and training has resulted in many administrative issues surfacing and this study is focused on finding out the level of Management Competencies among the Primary Healthcare Heads.

**Methods:** An Institutional based descriptive, cross sectional study among the Heads of the Government Primary Healthcare Institutions (GPHI), Western Province, Sri Lanka. A survey using a self-administrated questionnaire was conducted among the heads of the GPHI in Western Province. The respondents were asked to self-assess the extent to which they use the identified essential Management Competencies. Interpretation was done by comparison of the mean scores of the individual competency and as a whole. One way ANOVA, t-test and multiple comparisons were used to compare the relationship.

**Findings:** Results show Management Competencies among the Heads in Western Province were above average with high level of Cognitive skills and relatively low in Administrative skills. The Competencies had significance levels when compared to the selected socio-demographic-educational factors.

**Recommendation:** Emphasize more on the Administrative area when organizing workshops and training programs for Medical Officers In-charge.



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## INTRODUCTION

The 21st century economy is knowledge based and performance driven. Innovations, new technology and meeting customer expectations have become the core strategies of organizations. Today's economy not only presents challenging opportunities but is coupled with dramatic uncertainty too. It is important that every organization adapt rapidly to this dynamic and changing environment, to be at the forefront. To meet such challenges a new kind of leadership is required; a leader with the correct mix of managerial competencies who can guide an organization and lead it through complex and uncertain conditions. Management is defined as coordinating the activities of an organization or a business, in order to achieve its clearly defined objectives and goals, using the available resources in an efficient and effective manner.

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In other words, it comprises of planning, organizing, leading, controlling and evaluation function (Business Dictionary, 2014). According to Peter Drucker, Management knowledge is considered as the fifth factor of production along with natural resources, capital, labour and entrepreneurship (Brdenhorst-Weiss, *et al.,* 2008). Competency is an "underlying characteristic of an individual which is casually related to effective or superior performance in a job" (Boyatizis, 1982). The Oxford Dictionary describes it as the ability to do something successfully or efficiently. They are visible and/or quantifiable knowledge, behaviors, abilities and skills that are important in achieving job excellence (Ledford, 1995). 'Competence' and 'competencies' are broader concepts that encompass demonstrable performance outputs as well as behavior inputs sometimes relating to a system or set of minimum standards required for effective performance at work (CIPD, 2013). Washington State Human Resources (2014) point out that there are three types of competencies. Knowledge competency is the theoretical and practical

understanding of a subject. Skill and Ability competency is the capacity of a person to perform an act or work or do something either naturally or by learning. Behavioral competency is the patterns of action or conduct (Washington State Human Resources, 2014). To do things right and to do the right thing, an organization should have a workforce with the correct knowledge, skills and attitude in order to achieve its goals. These three elements could be integrated in the competency of an individual who performs efficiently and effectively. Management issues are fundamental to any institutions or organizations. Having the right management competency will enable a person to choose and nurture the correct workforce, manage and optimize the usage of the available resources, ensure best services to its clientele while improving the overall performance of the organization in all its aspects. Vital components in the management competency are leadership, administration, interpersonal relations, cognitive and communication. According to Peter Drucker "management is, doing things right; leadership is, doing the right things". Leadership is a process where an individual is able to enroll the support of others in achieving a common goal through social influence (Chemers, 2000). These inbuilt qualities slowly change, developing over a period of time and help a leader of an organization to walk towards its goals. In general, Administration includes the management of day to day operations, decision making, organization of human resources and other resources to achieve the common goal of an institution. Inter-personal relations indicate the development and maintenance of relationship among co-workers, the wellbeing of the employees and conflict management. Cognitive competencies involves problem analysis, decision making and result orientation. Methodical and systemic knowledge will generate cognitive competencies in an individual, including those concepts of spontaneous experiences at the implicit level of knowledge (Medves, 2006). Communication is the process of sending and receiving messages (Thill & Bovee, 2002). The success of this process is, when the receiver correctly understands the intended action of the message from the sender. In Government Primary Healthcare Institutions (GPHI) around the country, generally Medical Officers (MO) are appointed as In-charge officers, to look in to the management function of the institution. These appointments are mostly the first or second appointment after the internship. However, the appointees are not trained in management skills at the university level and neither do they receive training in this area prior to their postings. Yet, these MOs are expected to carry out the management functions of the hospital smoothly, in keeping with the requirements of the Sri Lankan Administrative system. Most often, these appointees due to the lack of knowledge and training face many administrative issues on a daily basis, some even attracting media attention. Based on the discussion above, the problem statement for this research is: lack of knowledge, competency and management skills among MOIC of GPHI, leading to many administrative issues.

Based on the problem statement the following research questions were addressed;

- What are the essential management competencies that a MOIC of a GPHI should hold?
- What is the level of management competencies the MOIC of these GPHI possess?
- Whether the socio-demographic factors have an influence on these management competencies.

Healthcare leaders in order to face robust challenges, need to be equipped with knowledge, leadership skills and the right competencies to achieve the organizational goals and objectives. Absence of leadership, will result in very slow progress leading to stagnation and may eventually lose its path. Leadership is not mere decision making but successful implementation of the decisions for positive results (Mills, 2005). These leaders must also develop interpersonal relationships to execute continuous service delivery to the public (Longest, 1998). The GPHI are mainly based in rural areas around the country. According to World Bank 2010 evaluations the rural population of the country constitutes around 84.9% of the total population of Sri Lanka (Trading Economics, 2013). Though these institutions cater to a small percentage of the inward patient care management they cater to about 66% of the OPD patients and 34% of the clinics of the country (Sri lanka Medical Statistics Unit, 2008). Since these numbers are relatively large it is vital that the In-charge personnel should possess management competencies in order to deliver an uninterrupted good quality service to the public.

Communication is one of the major competencies that a top level Administrator or in this instance the MOIC should hold. Effective communication skill will facilitate problem solving, enhance suitable decision making, augmenting a smooth work flow, enhancing good employee-employer relationship, building professional image and increasing productivity eventually benefitting the organization (Thill&Bovee, 2002; Jo & Shim, 2005; Orpen, 1991). Having the necessary competencies will facilitate the MOIC to focus and perform precisely. This will assist them to improve the internal environment of the organization and also adapt themselves to the ever changing external environment. Also, this will improve the service provided to patients, thereby resulting in a healthier nation. This study will focus on the behavioral competencies of MOICs.

**General Objectives**

To describe the level of management competencies among MOIC of the GPHI in Western Province of Sri Lanka.

**Specific Objectives**

- To identify the essential Management Competencies a MOIC of a GPHI in Sri Lanka should have.
- To determine the level of leadership, communication, administrative, cognitive and inter-personal relationship competencies among the MOIC of GPHI in the Western Province of Sri Lanka.
- To describe the relationship of these management competencies to selected socio demographic factors.

The study was restricted to assessing the level of management competencies in respect to essential competency such as Leadership, Administration, Communication, Interpersonal

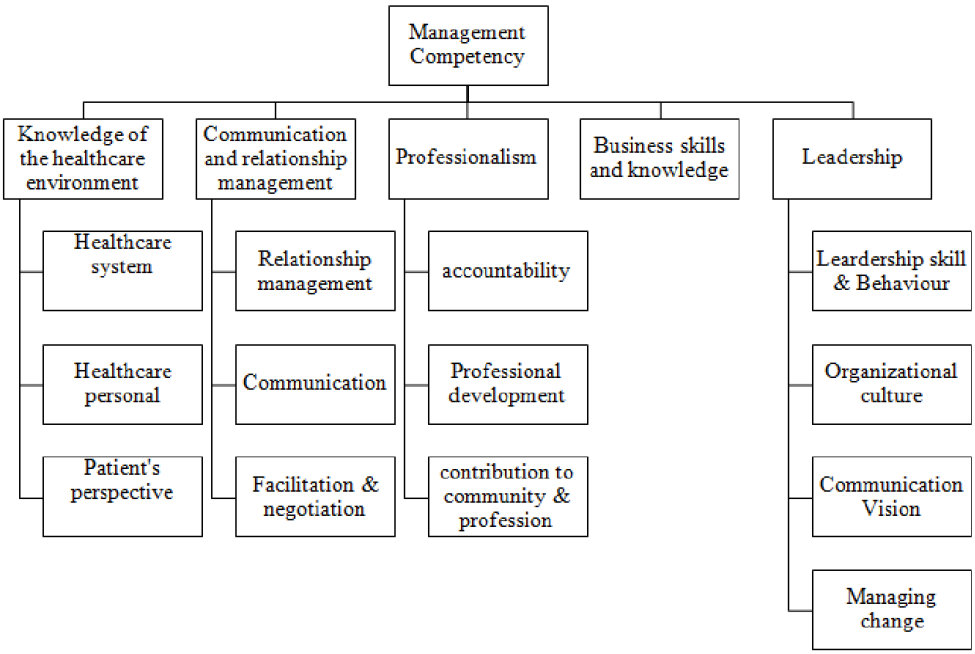
and Cognitive skills and was carried out in the Districts of the Western Province of Sri Lanka only due to time and financial constraints. The purpose of this study is focused to find out the level of essential competencies in respect to behavioral competencies among the MOICs in the Primary healthcare institutions in Western province of Sri Lanka. It will be interesting to know whether these MOICs have the necessary capacity to live up to the issues faced by them especially in view of leadership, administration, cognitive, communication and interpersonal relations given the current working nature.

## Literature review

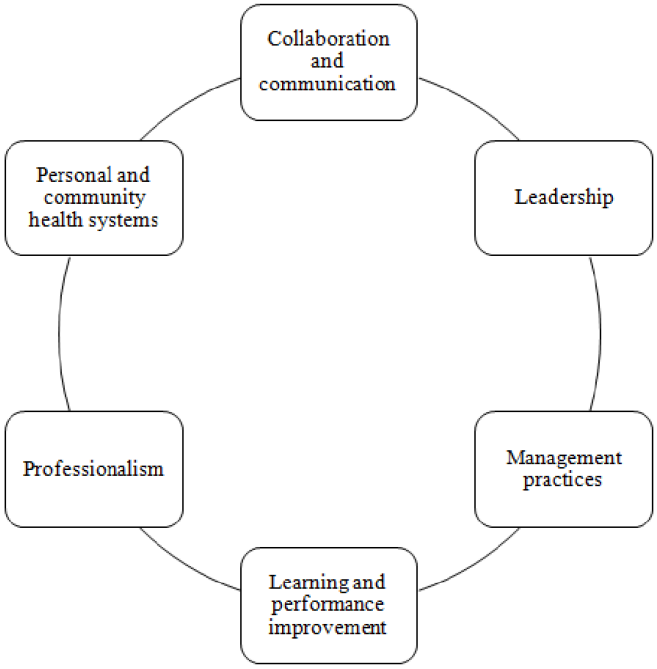
The American College of Healthcare Executives (2014) has identified five domains as core competencies in healthcare management. Each main domain comprises of number of sub domains (Figure 1).

The National Council for Healthcare Leadership (NCHL) has developed a Healthcare Leadership Competency Framework through literature survey on Leadership and Management Competencies in Healthcare and related domains (Figure 2). The model includes six competencies. Each of these core competencies contains specific skills, knowledge, attitudes and values that a healthcare manager should possess and exhibit.

American International Health Alliance (2004) used the following competencies to examine the level of competency among newly trained healthcare managers following the completion of their management workshops. These Management Competencies include self-management, planning and assessment, organization and supervision, human resource management, financial management, information management and decision making, quality management, monitoring and evaluation.




Source: ACHE Web site




Source: NCHL

***Figure 2. NCHL Healthcare Leadership competency framework***

In the WHO publication "How can I be a better manager"(Rotem & Joe, 1987) describes the traditional approaches to manage healthcare industry as less useful because the healthcare industry is a constantly changing field where new concepts and strategies are being developed, tested and eventually applied. To manage such industry managers, it is not enough to have only the basic skills and qualities but require specialized skills that have to be learnt and continually improved. This report further describes these management competencies into five headings.

The WHO's competency framework includes,

1.Deciding what to do
   a.Analyzing the present situation
   b.Setting priorities
   c.Establishing long and short term goals
2.Deciding how to do it
   a.Preparing a plan of action
   b.Developing working procedures and policies
   c.Selecting staff
   d.Preparing a budget and reporting system
3.Delegating task and supervising
   a.Delegating task
   b.Developing an appropriate style of leadership
   c.Motivating staff
   d.Evaluating staff
4.Evaluating and monitoring programme performance
   a.Planning for evaluation
   b.Selecting indicators to measure progress
   c.Collecting information
   d.Comparing results with objectives
   e.Taking corrective action
5.Organizing continuing education for yourself and others
   a.Keeping up with new ideas
   b.Setting an example for others
   c.Teaching
   d.Involving staff in continuing education

A survey to assess the management competency levels among hospital managers in the public and private sectors in South Africa was conducted in 2008. It included seven key functions these managers perform on a day to day basis. These include planning, organizing, leading, controlling, legal &ethical, self-management and delivery of healthcare (Pillay, 2008). In another survey of hospital managers in Kathmandu valley, Nepal eleven generic competencies were used to examine the level of competency. All eleven competencies are viewed as being important in the role of a healthcare manager.

These competencies are,

- Strategic capability and Leadership
- Program and Project management
- Financial management
- Change management
- Knowledge management
- Service delivery innovation
- Problem solving and analysis
- Human resources management and empowerment
- Client orientation and customer focus
- Communication and information
- Honesty and integrity

The word communication originated from the Latin term 'communicare' which simply means to share(Online Etymology Dictionary, 2014). It is a process of transferring data/information from one individual to another(Clark, n.d.). The United States Army (Army, 1983) mentions that communication is when a sender transmitting an idea or information to a receiver. Communication is considered effective only when the receiver understands the intended message from the sender and gets feedback. Mode of communications are oral and written. Communication is a critical managerial skill and the foundation of effective leadership. It is a linking process essential for planning, organizing, staffing, directing and controlling. Effective communication aids better decision making, improves and maintains interpersonal relationships and enables the organizations to reach its goals(American Management Association, n.d.).

Chemers (1997) defines Leadership as "a process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task". It involves creating a clear vision, sharing that vision with others influence them to follow willingly, providing the information, knowledge and methods to realize that vision, and coordinating and balancing the conflicting interests of all members and stakeholders(Business Dictionary, 2014). Effective leaders not only will set and achieve challenging goals but take swift and decisive action even in difficult situations. They outperform their competition, take calculated risks and to overcome failure. Good leaders will exhibit of self-confidence, strong communication skills, the ability to manage others and a willingness to embrace change. Interpersonal skills used by an individual to properly interact with others. In an organization, this term generally refers to an individual's ability to g*et al*ong with others while getting the job done (Investopedia, 2014). Interpersonal skills include everything from communication, getting along with others, understanding other's needs and managing conflicts. Good interpersonal skills are a prerequisite for many positions in an organization especially to Managers.

Administration, in simple, involves all the activities that relate to managing an organization. These activities include planning, organizing, controlling, monitoring, directing and commanding (Merriam Webster, 2014). In other words managing all the functions of the business environment to achieve the organizations goals. Cognitive skills are brain based skills that enable a person to carry out his or her tasks from the simplest to the most complex. It involves thinking, learning, processing information and making effective decisions. Although development of some of them may be related to the individuals' genetic makeup, most of them can be learned and mastered. This study is on assessing the management competencies of Medical Officers in charge of Primary Healthcare units, the most relevant aspect of competency that could be adopted for this study according to Hoffmann is the behavioral aspect. This is due to the definition that was provided by Boyatzis in 1982 indicates competencies are made up of many things. Yet we only can see evidence in a way

somebody behaves. Hoffmann (1999) further explains this through an example of where interpersonal skills are exhibited by how effectively a person could work in a team, influences others to perform and his or her negotiation skills. These interpersonal skills are ideal to be measured through behavioral competencies.

## MATERIALS AND METHODS

This is a hospital based descriptive, cross-sectional study using a self-administered questionnaire conducted among MOIC of GPHIs in Western Province of Sri Lanka. The study has two components. The first describes the socio-demographic-educational factors and the second assesses the level of Leadership, Communication, Administrative, Cognitive, and Inter-personal relationship competencies. The health care system in Sri Lanka consists of a mixture of Allopathic, Ayurveda and several other systems of medicine that exist together (Ministry of Health, 2003). There are 1638 health care institutions in the public sector and 186 in the private sector (Deparment of Census & Statistics, 2009). The Public sector health care organizations are classified into Primary, Secondary and Tertiary Care institutions. Primary healthcare institutions are the initial contact with the country's health care system. They include preventive, promotive and curative care. There are 1301 Primary health care institutions in Sri Lanka. They include Divisional Hopsitals (A, B & C), Primary Medical Care Units, Office of the Medical Officer of Health and Maternity & Child homes. (Deparment of Census & Statistics, 2009). The study was completed in thirteen months from September 2013 and the data were collected over a period of ten weeks. The study population (Table -1) comprised of the MOIC at various GPHIs in Western Province of Sri Lanka. Medical Officers with MBBS or an equivalent degree working as permanent In-charge Officers of the GPHI during the period of study were included. Apothecary doctors functioning as MOIC and Medical Officers who were acting/relief on behalf of the officer in-charge during the data collection period were excluded. After an in-depth literature review, competencies that a healthcare manager should have for the smooth functioning of the healthcare institution were identified and discussed at a FGD among the experts in Medical Administration in Sri Lanka. This was followed by a modified Delphi method in three rounds of emails among the same experts to finalize and group them into five essential competencies. Number of Management Competency assessment tools used in other studies was assessed too. The questionnaire was developed from components taken from these assessment tools with appropriate changes and relevant modifications to suit the Sri Lankan context. The inputs from the FGD and Delphi Technique were also used to support and enhance the questionnaire. The questionnaire had two major sections.

***Table 1. Primary Healthcare Institutions in Western Province according to the Administrative body***

| Institutions | PDHS Western Province | | | NIHS | DGH Kalutara | CMC |
|---|---|---|---|---|---|---|
| | Colombo District | Gampaha District | Kalutara District | | | |
| Divisional hospital A | 1 | 3 | 2 | - | - | - |
| Divisional hospital B | 6 | 1 | 6 | - | 1 | - |
| Divisional hospital C | 2 | 7 | 5 | - | 2 | - |
| PMCU/MCH | 29 | 44 | 7 | - | - | 13 |
| MOOH | 12 | 16 | 11 | 3 | - | 6 |
| Total | 50 | 71 | 31 | 3 | 3 | 19 |

Source: PDHS Western Province, CMC, DGH Kalutara and NIHS Kalutara

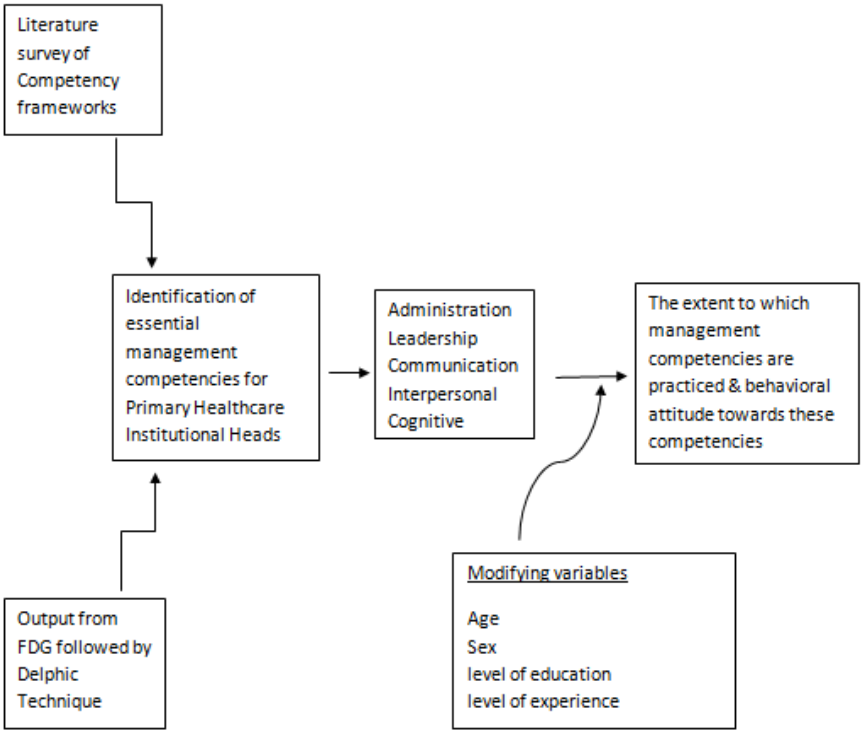



***Figure 3. Conceptual framework***

The first section included the Socio-Demographic-Educational characteristics of the MOIC. It consisted of nine close ended questions. The second part of the questionnaire consisted of 50 questions targeted to assess the five essential Management Competencies of MOIC. A Likert's scale of five ratings was used. Respondents were required to rate each question as follows; 1-almost never use the skill, 2-rarely use the skill, 3-occasionally use the skill, 4-frequently use the skill and 5-almost always use the skill.

The questionnaire was pretested among Medical Officers at NHSL who had previously worked as MOIC of various GPHIs around the country and changes were done. This version of the questionnaire was again circulated among the experts and the final version of the questionnaire was prepared with further improvements. Reliability of the questionnaire was ensured by conducting a test-retest and the P value obtained using the paired t test was more than 0.05.

**Table 2. Operationalization of the key variables**

| Concept | Study Variable | Indicator | Statement No |
|---|---|---|---|
| Management Competencies | 1. Administrative skills | Planning | 01-03 |
| | | Organizing | 04-07 |
| | | Personal Organization & Time management | 08-11 |
| | 2. Leadership skills | Leadership style | 12-15 |
| | | Motivating others | 16-19 |
| | | Delegation & Controlling | 20-22 |
| | | Coaching & Development | 23-26 |
| | 3. Interpersonal skills | Human relations | 27-30 |
| | | Conflict management | 31-34 |
| | 4. Communication skills | Informing | 35-37 |
| | | Listening | 38-39 |
| | | Oral | 40-41 |
| | | Written | 42 |
| | 5. Cognitive skills | Problem analysis & decision Making | 43-45 |
| | | Financial & Quantitative | 46-48 |
| | | Results orientation | 49-50 |

***Table 3 - Socio-demographic-educational factors of the respondents with number, frequency and Mean scores of overall management competency under the above factors***

| Socio-demographic-educational Factors | N (%) | Overall Management Competency Mean(SD) |
|---|---|---|
| Age Group | | |
| Less than 31 | 1(1) | 2.72 |
| 31-35 | 6(5.5) | 3.17(.42) |
| 36-40 | 23(22.3) | 3.28(.42) |
| 41-45 | 26(25.2) | 3.50(.34) |
| 46-50 | 22(21.4) | 3.42(.39) |
| 51-55 | 15(14.5) | 3.72(.40) |
| Above 55 | 10(9.7) | 3.86(.25) |
| Gender | | |
| Male | 55(53.4) | 3.55(.47) |
| Female | 48(46.6) | 3.33(.35) |
| Type of Hospital | | |
| Divisional Hospital Type A | 6(5.8) | |
| Type B | 14(13.6) | |
| Type C | 14(13.6) | |
| PMCU | 33(32) | |
| MOH | 36(35) | |
| Educational qualification | | |
| MBBS or Equivalent | 70(68) | 3.36(.39) |
| MBBS with Diploma | 20(19.4) | 3.56(.35) |
| MBBS with MSc | 13(12.6) | 3.47(.34) |
| Additional Management qualification | | |
| Yes | 20(19.4) | 3.88(.38) |
| No | 83(80.6) | 3.38(.37) |
| Period of service in Health sector(Years) | | |
| Less than 7 | 8(7.8) | 3.11(.44) |
| 7-13 | 35(34) | 3.3(.39) |
| 14-19 | 30 | 3.51(.36) |
| 20-25 | 19 | 3.66(.39) |
| Above 25 | 11(10.7) | 3.87(.21) |
| Period of service as MOIC(Years) | | |
| Less than one year | 23(22.3) | 3.08(.36) |
| 1-2 | 16(15.5) | 3.24(.28) |
| 2-3 | 8(7.8) | 3.25(.19) |
| 3-4 | 6(5.8) | 3.45(.21) |
| More than four years | 50(48.5) | 3.77(.31) |
| Receipt of Management training | | |
| Yes | 42(40.8) | 3.68(.39) |
| No | 61(59.2) | 3.33(.39) |
| Held a leader position at school / University | | |
| Yes | 44(42.7) | 3.69(.36) |
| No | 59(57.3) | 3.32(.40) |

The questionnaire was also tested by using Cronbach's alpha coefficient to assess the internal consistency. After obtaining Ethical and Administrative approvals data collection was done over a period of ten weeks. In order to minimize the non-respondent rate, PI personally contacted all prospective participants initially over the phone and explained about the study, its usefulness and requested their fullest cooperation. After obtaining their willingness to participate, PI visited these institutions, again explained about the study, method to answer the questionnaire, obtained consent and collected the information. PI was physically available for the participants to get clarifications while responding to the questionnaire. Once the completed questionnaire was collected the PI went through all the answered questions with the purpose of ensuring completeness of the information provided. Collected data was checked before it was fed into the computer software for analysis. The data were also checked for missing and unusual values. The data entering was carried out in Microsoft Access software package and then imported to SPSS V18.0 software package for analysis. Basic characteristics of the study population were described by frequency distribution of the responses. Management Competencies were assessed by comparison of the Mean scores. Statistical associations between categories were evaluated by the t-test and one way ANOVA. All analysis was conducted on 95% confidence level with allowing a 5% margin of error. Operationalization of the key concept along with their variables, indicators and relevant statement in the questionnaire are shown in Table 2.

## Analysis and findings

Of the total study population of 177 MOIC, 118 fulfilled the specific study criteria, 103 participated thus giving a response rate of 87.28%.The questionnaire was reliable over time since significance level of test-retest of the paired sample t-test was 0.55 and the internal consistency was validated because the Cronbach's α coefficient was 0.823. Age ranged from 29 to 58 years, with a mean age of 45.23 years (SD=6.75) and majority was from 41-45 age group. Most of the respondents were males (53.4%, n=55). 35% (n=36) of the respondents were MOIC of MOOH offices and 32% (n=33) were MOIC of PMCUs whereas the lowest were from Type A Divisional Hospitals (5.8%, n= 6). Only 32% of the total respondents had a post graduate qualification, however only 19.4% possessed additional management qualification. Approximately one third of the MOIC (34%; n=35) had a total service period between seven and 13 years in the health sector whereas almost half (48.5%, n=50) had been in in-charge post for more than four years. 40.8% (n=42) had received some level of management training from their respective administrative bodies or relevant RDHS. It was also found that 42.7% (n=44) had held a leadership position at School or University (Table 3). Table 4 shows the descriptive statistics of the identified essential management competencies. The highest mean score was for cognitive skills (mean = 3.97), lowest for administrative skills (mean = 3.09) and the overall average recorded for Management Competency was 3.48.

**Table 4. Descriptive statistics of Management Competency of MOIC**

| Management Competency | Mean | Median | Mode | SD | Percentile | |
|---|---|---|---|---|---|---|
| | | | | | $25^{th}$ | $75^{th}$ |
| Administrative | 3.09 | 3.09 | 2.45 | 0.43 | 2.82 | 3.36 |
| Leadership | 3.36 | 3.56 | 3.53 | 0.45 | 3.2 | 3.8 |
| Interpersonal | 3.49 | 3.5 | 3.38 | 0.48 | 3.13 | 3.75 |
| Communication | 3.37 | 3.38 | 3.38 | 0.57 | 2.88 | 3.75 |
| Cognitive | 3.97 | 3.5 | 3.3 | 0.43 | 3.14 | 3.78 |
| Overall | 3.48 | 3.5 | 3.3 | .43 | 3.14 | 3.78 |

Source: Survey data

**Table 5. Management Competency by Educational qualification, period of services in Health sector and period of service as MO-IC – One way ANOVA**

| Management Competency | F | Sig |
|---|---|---|
| 1.Educational qualification | | |
| Administrative | 5.391 | .006 |
| Leadership | 13.849 | .000 |
| Interpersonal | 11.237 | .000 |
| Communication | 10.693 | .000 |
| Cognitive | 10.171 | .000 |
| Overall | 12.994 | .000 |
| 2.Period of service in Health sector(Years) | | |
| Administrative | 7.395 | .000 |
| Leadership | 6.160 | .000 |
| Interpersonal | 5.863 | .000 |
| Communication | 6.148 | .000 |
| Cognitive | 7.679 | .000 |
| Overall | 7.907 | .000 |
| 3.Period of service as MOIC(Years) | | |
| Administrative | 22.738 | .000 |
| Leadership | 18.674 | .000 |
| Interpersonal | 11.908 | .000 |
| Communication | 14.012 | .000 |
| Cognitive | 17.782 | .000 |
| Overall | 23.693 | .000 |

Source: Survey data

The relationship between overall management competencies with age, gender, level of education, holding an additional management qualification, period of service in the health sector, receipt of management training and held a head position at school or university were analyzed. Since the variables were following somewhat close to the normal distribution, parametric tests were used for analysis. To show the relationship between the Management Competency and age, educational qualification, period of service in health sector and period of service as MOIC one way ANOVA test was used. For age the F score was 5.067 with significance value of 0.000, indicating age has significant influence on the Management Competencies. This was apparent when the mean values of the Management Competencies were increasing with age groups. ANOVA test also showed a significance values in all the individual Management competencies and as a whole, when compared with educational qualifications, period of service in health sector and period of service as MOIC (Table 5). These significant values can be explained by the increasing mean values along with the increase in the level of education, with the increase in duration of the service in the Health Sector and increase in period of service as MOIC.

***Table 6. Overall Management Competency - Independent Sample t-Test***

| Overall Management Competency | t-test for equality of means | | |
|---|---|---|---|
| | t | Df | Sig.(2-tailed) |
| 1.with Gender | | | |
| Equal variance | 1.82 | 101 | 0.072 |
| assumed Equal | 1.85 | 98.99 | 0.066 |
| variance not assumed | | | |
| 2.with additional Management qualification | | | |
| Equal variance | 5.36 | 101 | 0.000 |
| assumed Equal | 5.28 | 28.39 | 0.000 |
| variance not assumed | | | |
| 3.with Receipt of management training | | | |
| Equal variance | 4.315 | 101 | 0.000 |
| assumed Equal | 4.346 | 87.926 | 0.000 |
| variance not assumed | | | |
| 4.with held a leader post at school / university | | | |
| Equal variance | 4.351 | 101 | 0.000 |
| assumed Equal | 4.346 | 87.926 | 0.000 |
| variance not assumed | | | |

Source: Survey data

Independent sample t-tests were used to compare the relationship of Management Competency with gender, holding an additional management qualification, receipt of management training and held a leader position at school or university. Mean value for males was 3.55 and for females 3.33. Gender does not have any impact on the Management Competencies whereas significance level was found when compared to holding an additional management qualification, receipt of management training or held a leader post at school or University. These too can be explained through the difference among the means of the MOIC with and without additional management qualifications, those who have received to those who have not received management training and held and did not hold a leader's post respectively (Table 6).

## DISCUSSION

Based on the in depth literature review, FGD , followed by modified Delphi method from experts in the field of Medical Administration, essential Management Competencies required by a MOIC of a GPHI were identified and grouped into five major areas.

- **General Administration :** Planning, Organising, Personal Organization and Time management
- **Leadership :** Leadership style, Delegation & Controlling, Motivation and Coaching & Development
- **Interpersonal :** Human relations and conflict management
- **Communication :** Informing, Listening, Oral and Written
- **Cognitive :** Problem analysis, Decision making and Results orientation

The response rate of this study was 87.28%. In similar studies the overall response rate in UKwas 38% (179/472), Kenya 42% (113/270) (Ireri, 2011), South Africa 51.91% (203/389) (Pillay, 2008), Nepal 66.23% (51/77) (Khadha, *et al*., 2014) and 84.1% (85/102) in Sri Lanka according to an unpublished study in the Eastern Province (EP). This study shows fairly a high response rate when compared with the studies mentioned above. This may be due to the interest and the enthusiasm the MOIC had shown towards the topic as found out during the data collection and the cooperation rendered by the Provincial and Regional Directors of Health Services. Another possible scenario could be that the PI was physically present during the data collection, whereas in the other international studies a lower response rate was recorded due to collection of data via email. The respondents' age range were between 29 years to 58 years with a mean age of 45.23 (SD 6.75) years. The mean age of the participant in Kenya (Ireri, 2011) was 38.9 years, 50.8 years in the United Kingdom (Ireri, 2011) and 40.1years in EP.

Highest number of respondents fell into the age group of '41 – 45' years (25.2%). This was followed by '36-40' (22.3%) and '46-50' (21.4%). In South Africa (Pillay, 2008) the highest represented age group was '35-50' years (52.6%) whereas in Kenya (42.5%), Nepal (45.1%), and in EP of Sri Lanka (56.1%) the highest group was '31-40'. If the age groups of 36-40, 41-45 and 46-50 were combined the study will show a representation of 68.9%, which is higher than the South African study. When compared to the EP the higher age proportion for this study could be due the Western Province being urbanized with better facilities than the EP. Another reason attributable is the age and seniority of MOIC who prefer to settle in these parts of the country. Participation of male (53.4%) respondents were slightly higher than the female (46.6%) respondents. The South African (Pillay, 2008) study also shows a similar picture with almost equal participation from both gender groups with slight dominance by the males whereas the UK, Kenya (Ireri, 2011), Nepal (Khadha, *et al*., 2014) and EP show majority of the healthcare managers were males. This may be due to healthcare administrators' job is considered a male profession in these parts of the world. It was found one third of the study population were MOIC of the MOOH offices (35%), another one third were MOIC of

PMCUs (32%) and the rest represent the Divisional Hospitals. It was also found that the majority of the MOIC possess only the MBBS degree (68%) as their highest level of educational qualification. The study in EP also showed majority of the participants (88.2%) had only MBBS or equivalent as the highest educational qualification, whereas 66.7% of the respondents in Nepal (Khadha, *et al*., 2014) had Master's degree. This may be due to the fact the sample in Nepal was represented by both private and public sectors including both Primary and Secondary Healthcare Institutions whereas this and the EP study included only the GPHIs. The study revealed, out of the 13 respondents with MSc, 11 of them had Master's in Community Medicine and two of them with Master's in Medical Administration. It would be interesting to know which category of MSc holders exhibited the highest level of Management Competencies. However it is not within the scope of the study.

Among the respondents 19.4% had an additional management qualification which were at Diploma levels including Business Management, Public Administration, Finance and Economics. It was also found that almost 50% of the MOIC were holding the In-charge position for over four years. The second largely represented group was having experience 'less than one year'. The number of MOIC as In-charge Officers was in the decreasing order of '1-2 years', '2-3 years' and '3-4 years' but substantially increased in the last group of 'over 4 years'. This may be due to, the Medical Officers who opt being at an In-charge post continue to do so and the others prefer for clinical attachments in the subsequent appointments. The study revealed 40.8% of the respondents have undergone some level of training pertaining to Healthcare Administration while being a MOIC whereas 59.2% have not received any kind of training. These includes the training of middle managers and MOOH by the NIHS and ad hoc training on management subjects such as quality, planning, conflict management and disaster management by the respective RDHS. The reason for the majority of the respondents not even undergoing such training is due to its noncompulsory nature. Non participation could also be due to no pre planned scheduling and less frequent occurrence of these trainings.

This statement can be justified by the low percentage found in the Eastern Province (10.6%) of Sri Lanka too and the high numbers that were found in the UK (81.8%) and Kenya (65.5%) which had management training and development courses conducted by their healthcare systems which required compulsory participation (Ireri, 2011). The last two variables were to identify if the MOIC had any previous experience in leading or had any level of influence to lead, through his/her close relatives. It was found that 42.7% of the MOIC had previous experience in some kind of leadership position, either at school or at University level. It was found 33% of the MOIC has had an influence on their leadership abilities through their parents or spouse. Eastern Province also showed that 30.2% of the respondents had experienced a leadership position at School or University level. These findings support past studies where doctors got into management due to their passion for leadership (Zaher, 1996). The Overall Management Competency mean score of the MOIC was 3.48 (SD 0.43). This reveals that the Management Competency was above average level of 3.00 and the MOIC were using these Management Competencies between occasionally and frequently. The Cognitive Competency recorded the highest (3.97) and the Administrative recorded the lowest (3.09). The Leadership, Interpersonal and Communication competencies recorded 3.36, 3.49 and 3.37, respectively. These findings suggest that the level of Management Competencies individually were above average. Cognitive competency was used frequently, Administrative competency was used occasionally and the rest within the range of occasionally to frequently. This study was compared with the studies on Management Competencies among Hospital Managers in other countries. The South African (Pillay, 2008) study revealed leadership mean score of 4.02 compared to 3.36 of this study. Planning, Organizing and Controlling mean scores in the South African study were 3.96, 3.69 and 3.72, respectively but the Administrative competency used in this study incorporated the above competencies and scored 3.09. This may be due to 74.8% of the South African Public Healthcare Administrators had received formal training in Healthcare Management in contrast to only 40.8% of the Primary Healthcare heads in this study.

The study in Nepal (Khadha *et al*., 2014) shows leadership mean score of 3.22 and the problem analysis and problem solving (incorporated in the Cognitive Competencies in this study) score was 3.19. These scores are higher than what was recorded in this study, as the study in Nepal was assessed at four point Likert's scale. This difference may be due to 66.7% of the managers in Nepal possessed a Master's degree compared to only 12.6% in this study. This study shows statistical significant levels with age but the study in Nepal (Khadha *et al*., 2014) does not show any statistical significance. With age, individuals gain more experience and the level of competencies also improves over the years. This is more applicable to MOIC who have not done any post graduate studies in that particular field and have not received any training too. Age in the Nepal study may not be significant because majority of them have undergone Master's education in the Healthcare Management. Studies in Eastern Province, Nepal (Khadha *et al*., 2014), UK and Kenya (Ireri, 2011) have shown the majority of the hospital administrators were males.

This study and the study done in South Africa (Pillay, 2008) shows the gender proportion is almost equal with a slight preponderance of males. Gender had no influence on the level of Management Competencies of the MOIC. The study in Nepal too revealed similar findings. Significant levels were found in all five Management Competencies under consideration when compared to the level of Education. The South African (Pillay, 2008) study also shows a similar finding whereas the study in Nepal (Khadha *et al*., 2014) does not show any statistical significance. Further analysis reveals a Diploma in addition to the MBBS degree helps improve the Cognitive Competencies, whereas having a Masters degree enables MOIC to enhance all five Management Competencies. A possible reason for this could be that the Diplomas the MOIC had followed were clinically based, such as DFM and DCH. These would have not focused on Management subjects while the subjects in the MSc degree were management based. All five Management Competencies had significance levels when compared with the number of years of service of the

participants. Once again the study in Nepal does not show any significance when compared to duration of service in the health sector. Multiple comparisons show significance level in the Overall Management Competency when compared 'less than 7' years group with '20-25' years and 'above 25' years groups. Significance were found when '7-13' years group was compared with '20-25' years & 'above 25' years group. '14-19' years group did not show any significance when compared to other groups. This shows the Management Competencies grows significantly with years of service up to '14 to 19' years and then plateaus or grows slowly thereafter.

One way ANOVA was used to find out the relationship between the level of Management Competency among the MOIC and their work experience as In-charge Officer. Significance levels were identified between all individual Management Competencies and as a whole. South African study too showed significance between the number of years in current position and Management Competency. The mean values were seen increasing with increase in work experience as In-charge Officer. This was clearly seen in Administrative Competency, Cognitive Competency and Overall Management Competency. For some reason the Leadership, Interpersonal and Communication Competency were found slightly more in "1-2 years' of experience group compared to '2-3 years' of experience group. Though it would be interesting to study this phenomenon, it was not assessed in this study. Significance level was found between the Management Competency and Management Training received by the MOIC. This is also evident in the level of Management Competency mean scores, among the MOIC who received/not received training. This was also found true for the South African study. Significance were also found in the above category. MOIC with previous leadership experience showed significance level of Management Competency when compared to those who did not have experience. Overall study findings reveal the MOIC in the Western Province possess above average level of Management Competencies. It is also evident apart from gender all other socio-demographic-educational factors had strong influence on the Management Competencies.

**Conclusion**

The study revealed the overall Management Competency level among the MOIC in Western Province was above average. It was apparent the Cognitive Competency was displayed frequently, Administrative Competency occasionally and the other three competencies in this study were exhibited in between occasionally to frequently. The study found Management Competencies improved with age, number of years of service in the health sector and the period of service as MOIC. Hence, senior Medical Officers at an In-charge post exhibited significantly more level of the Management Competencies compared to junior Medical Officers. This was particularly true when both categories did not possess any kind of Post graduate qualifications. It was also found the level of Management Competencies showed a significant growth up to '14-19' years group of duration of service at the health sector and thereafter showed a less significant improvement. The study further indicates having a Diploma (PGIM) or Masters' (PGIM) also influences the level of Management Competencies. Diploma only enhances the Cognitive Competency whereas MSc results in enhancement of all the individual Competencies in this study. Having an additional Management qualification also showed a significant increase in the Management Competencies. It was also evident MOIC with prior leadership experience at School or University level significant level of Management Competencies.

**Recommendation**

1.When appointing personnel to in charge positions of the Primary Healthcare Institutions following attributes should be included in the selection criteria.

- Seniority by Age
- Seniority by the number of years of experience
- Number of years of service as MO-IC
- Seniority by Grade
- Highest educational qualification

- MOIC who had undergone the middle managers' and the MOOH training at NIHS and ad hoc trainings at RDHS, displayed significant level of Management Competencies. Thereby, it is recommended that these trainings are made compulsory to the selected Medical Officers before reporting to duty. Also to ensure that these trainings are conducted more frequently.

- When organizing training for Primary Healthcare heads emphasis should be given to improve administrative skills

- Medical Officers who possessed other Management diplomas also portrayed significant level of Management Competencies. Hence, it is best to encourage MOIC to follow these courses in private institutions through sponsorship.

- Conduct further studies in this area to identify the training needs and the gaps and thereby to develop a comprehensive curriculum for In Charge officers at the Primary Healthcare units.

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