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Analysis on Current and Future Training Needs in Health Sector of Sri Lanka

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Abstract

Sri Lanka holds a unique position in South Asia as one of the developing nations to provide universal health. Government spending on welfare mainly involves compromising or constraining a country's development budget. It requires sound management strategies to utilize limited resources, including the human resource of the health sector. Training and development of health professionals can be identified as a critical component in strengthening the quality of health services. Fewer studies exist on Training Needs Analysis (TNA) on health professionals in Sri Lanka, and this study assessed the Training Needs of Sri Lanka's healthcare professionals.

This is a cross-sectional study collecting data from 240 health sector professionals in Sri Lanka. The Hennessey Hicks Training Need questionnaire was used to obtain data. Data from the source was analysed through the one-way ANOVA to compare the training needs of various professional groups, and the Word Cloud Online tool was applied to analyse the open-ended questions.

The study identifies published research evaluation, communicates with patients, identifies viable research, introduces new ideas, prioritizing works, assessing patients' needs, using technology, undertaking health promotion activities, collecting research information, and undertaking administrative duties as current training needs. While computer literacy training, training on new medical equipment, awareness programs on workplace stress-reducing, training on quality assurance certifications like ISO, programs on effectively communicating with patients, management training, and language training were identified as future training needs of professionals in the health sector. The study concluded that, continuous training programs as the preferred approach to access the performance gap. It also demonstrates that this awareness of information regarding the training needs is beneficial for the health sector policymakers, managers, employees, and the community. Having a better understanding of their job roles, performance needs, and involvement in the decision-making process is likely to motivate healthcare sector employees to improve service quality. These benefits will be reflected in positive outcomes on service quality, improving the overall healthcare system in the country.

Keywords: Healthcare, Hennessey Hicks Training Need Questionnaire, Sri Lanka, Training Need Analysis,

Introduction

'Health is the greatest wealth' – its significance carries much depth, extends beyond the ancient proverb and is of much relevance in this era. Today, health is one of the key yardsticks to determine the level of development in a respective country (Fan et al., 2018). Thus, Sri Lanka holds a unique position in South Asia as one of the developing nations to provide universal health (Ministry of Health; Nutrition and Indigenous Medicine, 2017). Government spending on welfare mostly involves compromising or constraining a country's development budget (Smith, 2018). Therefore, maintaining the quality of the health care system is essential, as it requires sound management strategies on utilization of limited resources, including the human resource of the health sector. The World Health Organization (WHO) encourages training for healthcare sector employees, while emphasizing the importance of continuous training in healthcare system management to facilitate quality, efficient and affordable healthcare services to people (World Health Organization, 2015). For this reason, the country needs health care professionals well skilled for clinical tasks who are capable of providing quality health care service (Mullan et al., 2012). Therefore, professional training for the healthcare sector can be identified as one of the critical factors to strengthen the healthcare system.

The World Bank classifies Sri Lanka as a lower-middle

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income country (World Bank, 2016). A Nigerian study proves that low-middle income countries do not or are unable to give priority and support, and pay attention to continuous education and training for the healthcare workforce (David et al., 2020). Without opportunities to undergo training and upgrade their know-how, thereby adding value to their exposure etc., health care sector employees frequently face productivity-related issues (James & Daniel., 2014). This situation may lead to a drop in services quality, thereby in the long run, can impair the health outcomes of the country. As a country that is experiencing a decline in service quality, Sri Lanka too needs more attention on the health sector training to overcome setbacks in this regard. For this reason, the TNA can provide many strategic benefits by having a comprehensive training system in place.

Therefore, TNA is an investigation and a process, that can be used to identify the reasons behind employee performance gaps (Mahfod, 2014). Then, preparing a TNA is a significant effort within the scope of Human Resource Management (HRM); TNA can be considered as the orderly inspection and investigation of current execution levels in comparison to the respective association's goals, clearly taking a glance at the status of employees' performance and encouraging groups of people in the organization (Denby, 2010). Thus, identifying training needs is vital in any organization as well-trained staff generally has the ability to compete in the particular sector. The healthcare sector is considered to be among the essential services in any given country. Therefore, a well trained health staff as the key actors have the potential to serve, thus resulting in better patient care; additionally, it will empower healthcare staff and enable them to be geared to improve their performance, which ultimately results in the growth of the quality healthcare in the country (Zahoor & Mustafa, 2017).

A past study highlights that, training should be a continuous process for continuous improvement, to fill in the gaps concerning employee efficiency (Mohammed, 2016). From a strategic perspective, continuous improvement in training helps reap benefits as well as synergies to the organization. It increases individual job satisfaction, performance and the overall quality of service (Hagan, 2018). However, training should be based on employees' expectations and perceived importance towards the job-related tasks rather than merely focusing on the organizational goals (Govranos & Newton, 2014). In this context, the outlook of both the employee and organisation are to be considered to obtain a holistic and realistic picture of staff training needs. Over time, healthcare complexities heighten while healthcare technologies evolve. The TNA provides opportunities for employees to provide feedback about their performance, which is essential to identify training needs, demands triggered by changes in the external environment (including those from patients and tech updates) and areas to be prioritised. It can be stressed that this proposed TNA encourages healthcare employees to be responsible for identifying their training needs. This study identifies the training needs and the preferred approach through the application of the TNA concept to contribute to the performance gap in the health sector of Sri Lanka. The study findings will be beneficial for health sector players to maximise the potential of limited human resources of healthcare, as healthcare demands increasingly rise to new challenges.

Literature

Training and development in healthcare is challenging because of the development of medical practices, new drug approvals, additional regulations by the government like wise (Thomas, 2010). It creates challenge for individuals when living in a global world with a knowledge-based economy. Because the technological changes make the demand for employees who are equipped with new skills and knowledge. For the reason that TNA on employees essential. Health sector is as well a fast-changing sector with the technology and globalization. Therefore, training is crucial for the health sector to maintain quality of health services. With rapidly changing technology and other medical innovation, training is essential. Many studies have recommended needs assessment before implementing any type of training program. For instance, according to Fyffe and Fleck's research on "using training needs analysis to implement change. Nursing Standard" says that there should be trainings regarding the staff technical skills on how to apply the new technology (Fyffe & Fleck, 1998). Correspondingly there should be updated employees on new technology in communication. And employees need to have the ability to work as a team also can consider as a quality factor that can improve the health service. It confirms the Communication and teamwork emerged as the most important training needs (Hicks & Hennessy, 1999). Furthermore, training helps nurses to equip themselves with better knowledge and skills. The training needs of the nurses have to be properly identified and they could be sent to some workshop and increase their awareness on the new updates in the technology in the field of medicine (Singh & Kumari Shweta, 2015). As a developing country health service training needs are vital in areas like communication skills, management, clinical skills, and research methods. According to the research done by Saint Lucia hospital found most respondents required training in communication skills, management, clinical skills, and research methods. It recommended how to conduct needs assessment and offer reference points for developing countries whose background and health care environment are similar to those of Saint Lucia (Gaspard & Che-Ming Yang, 2016). Consequently, there some more literatures show the importance of training on health sector employees.

All the people who are engaged in actions and whose primary intention is to enhance health care can be define as the health workforce (Silva, 2018).The outcome of training activities on health workforce would be enhanced by assessing the needs and skills & knowledge require for potential trainees. Therefore, effective management of human factor in healthcare can be deliver significant improvements (Silva, 2018). Similarly, World Health Organization (WHO) identified that workforce training is another important issue in health sector. They states it is essential that human resource personnel consider the composition of the health workforce in terms of both skill categories and training levels and new options for the education and in-service training of health care workers are required to ensure that the workforce is aware of and prepared to meet a particular country's present and future needs. A properly trained and competent workforce is essential to any successful health care system (World Health Organization, 2003).

Ministry of Health (MoH) can be recognized as one of the top public organization in Sri Lanka. There is a significant improvement in healthcare public employment comparing over decades in records of 1990 to 2014 (Silva, 2018). There is an increase of medical universities in Sri Lanka after the government established the Wayamba University and Sabaragamuwa University medical faculties and as well they plan to introduce another medical faculty in Moratuwa University in near future. Commencing those medical faculties will increase the Sri Lanka's medical labour force and there would be an excess supply of medical graduates by 2027 (De Silva , 2017). Moreover in Sri Lanka there are 18 Nurses Training Schools (NTS) under the Ministry of Health which are conducting post-basic trainings for nurses designed for three years basic course duration (Silva, 2018). In addition, there are

five Professions Supplementary To Medicine (PSM) categories, radiographers, medical laboratory technologists (MLTs), physiotherapists, occupational therapists and pharmacists (Ranasinghe, 2017). Thus, if the Sri Lanka's health sector can recognize responsibilities of each occupations and the self-assessment of health workers, it become possible to adapt training activities to the relevant need of the health sector, as well as to the needs of individual health workers. Besides it become easier for the Ministry and policy makers to identify who should, and who should not participate in specific training courses and workshops.

The predicted benefits of appropriate training are better motivated health workers and a thus a greater productivity of those workers which, in turn, benefits the entire health system and ultimately the patient and community. Therefore, training need analysis is become an important method to predict the future training needs.

On the basis of those evidence and theoretical understanding, this paper is to be examining the TNA in health sector in Sri Lanka.

Methods

This study was carried out to assess the TNA in a sample of health sector professionals in Sri Lanka. It focused specifically on skills gaps and subsequent training needs and encompassed all cadres of healthcare staff. Hence, the sample can be assumed as representative and comprehensive, to achieve the objectives of this study. To be ethical in research studies, approvals were duly obtained from the regulatory authorities such as the Ministry of Health.

Population

The study population included healthcare professionals as providers of major healthcare facilities; here, the healthcare sector includes hospitals, training institutions, laboratories, and pharmacies in both state and the non-state sector in Sri Lanka. The study mainly focused on the following skill categories according to the Ministry of Health, Nutrition & Indigenous Medicine in Sri Lanka.
1. Medical Practitioners
2. Dentists and dental hygienists
3. Nurses
4. Medical Laboratory Technicians
5. Public Health Inspectors
6. Pharmacists and Pharmacist Technicians
7. Physiotherapists

Sampling technique

This study takes a qualitative approach and was conducted based on the two-sampling method. Primarily, the purposive sampling method was used to select and shortlist healthcare facilities (hospitals, training institutions, laboratories and pharmacies) in Sri Lanka. Secondly, a convenience sampling method was used to ensure that the TNA information was collected from the representative groups.

Sample size

The sample size was determined based on the table from Morgan's method, which is acceptable in determining the sample size when the population is unknown (Krejcie & Morgan, 1970). Accordingly, Morgan's table shows (S = 285) as the sample for the amount of (N = 100 000) as the population. Data was collected from 240 respondents. Therefore, it can be considered as an appropriate sample.

Instrument

The Hennessey Hiks Training Need questionnaire was used (as the tested questionnaire, supported by previous literature) to obtain data leading to assess training needs of healthcare professionals. The main section of the questionnaire comprised a core set of 30 items, which were minimally modified to meet the requirements of this study without compromising its psychometric properties. All 30 items referred to tasks that are central to the role of healthcare professionals and categorized into five subsections:
1. research/audit
2. communication/teamwork
3. clinical skills
4. administrative and
5. managerial/supervisory

Respondents rate each item on a seven-point Likert scale according to four criteria. The first rating (A) is concerned with how important the activity to the successful performance or job; the second rating (B) is concerned with how well professionals currently perform the respective activity. The other two ratings (C and D) are concerned with the scope for improving performance either through training alone or through changes in a professional's work situation. The present study only adopted ratings (A) and (B), and eliminated ratings (C and D). In doing so, the purpose is to accomplish the main objective of this study, which is to identify the current and future training needs of the healthcare sector in Sri Lanka. Moreover, the questionnaire consisted of open-ended questions to obtain a response in identifying future training requirements. This approach allowed respondents to list down the training requirement as per their job-related expectations in future.

The questionnaire used in the present study was also used by more than 7,000 healthcare professionals worldwide (Hicks & Hennessy, 2011). Moreover, this tool has been psychometrically tested for validity and reliability in previous studies (Hennessy et al., 2006). Thus, this tool was already certified by the WHO as a valid and reliable instrument for use to obtain employees feedback regarding their training needs in any health system. The Cronbach alpha reliability test executed in this study showed a high internal consistency and a high degree of reliability (α = 0.965). Therefore, the questionnaire and the data set of this study is at an acceptable level.

Method of data analysis

Data were analysed through descriptive statistics as well as inferential statistics. Mean values were applied to analyse the importance rating (A) and performance ratings (B) for each subsection. One-way ANOVA was used to compare the training needs of various professional groups to identify whether the groups had significantly different training requirements on each item. The Statistical Package for Social Sciences (SPSS) version 25 was used to analyse the quantitative data and the Word Cloud Online visualization tool was used to analyse the open-ended question by analysing the frequency of words.

Results

This study encompassed more than 300 healthcare professionals from major healthcare providers including, hospitals, training institutions, laboratories, and pharmacies in both state and the non-state sectors in Sri Lanka. However, finally, 240 respondents participated in the questionnaire (response rate of 75%).

Error! Reference source not found. displays the demographic characteristics which are related to healthcare professionals' Job titles, Province/district, sector, gender, age, number of years in post and number of training programs attended. From total respondents, 44.6% (n=107) of 'Nurses' were ranked as the highest number of participation amount of health professionals and the lowest 0.4% (n=1) rated for 'Public Health Inspectors' (PHI). Similarly, 26.7% (n=64) of Medical Laboratory Technicians (MLT), 15% (n=36) of Medical practitioners, 5.8% (n=14) of Pharmacists and Pharmacists Technicians, 2.9% (n=7) of Physiotherapists and 1.7% (n=4) on behalf of Dentists & Dental Hygienists participated to the questionnaire, respectively.

In terms of the province/district of the participants, the Colombo district with 79.6% (n=191) showed the highest participation while the lowest participation rate was observed in Rathnapura and Puththalam districts amounting to 0.4% (n=1) of total participation. Correspondingly, North West province, Batticaloa and Gampaha districts amounted to 13.3% (n=32), 4.6% (n=11) and 1.7% (n=4) responses regarding participation in the survey.

From total respondents, with a high number, non-state respondents exceeded the State respondents; these figures were respectively 65.8% (n=158) for the non-State sector and 34.2% (n=82) for the State sector.

The gender distribution of the total responses demonstrates high female engagement in the questionnaire. Female participation presented as 70.8% (n=170) from the total responses while male participation represented 29.2% (n=70) from the total responses.

The age limits of the respondents were segregated into five categories. As seen in Table 1, between the ages 26-35 category holds the highest number of respondents with approximately 47.1% (n=113) respondents, out of 240 total responses. Respondents between the ages 46-55 hold the lowest value representation with around 7% (n=17) when other age categories were moderate.

The number of years in post represents the respondents' service years. In this survey, 47.5% (n=114) respondents have less than five service years, as well as the same category, holds the highest value from the total. Most of the respondents are having less experience in the medical sector by comparing their number of service years in the healthcare sector. Furthermore, 49.2% (n=118) of respondents attended less than five training programs. It can be concluded there are a high number of respondents have participated in a lesser number of training programs.

Demographic Characteristics	Frequency	Percentage
Job Titles: Medical Practitioners	36	15.0
Dentists and dental hygienists	4	1.7
Nurses	107	44.6
Medical Laboratory Technicians	64	26.7
Public Health Inspectors	1	0.4
Pharmacists and Pharmacist Technicians	14	5.8
Physiotherapists	7	2.9
Other	7	2.9
Province / District: Colombo	191	79.6
Gampaha	4	1.7
North West	32	13.3
Batticaloa	11	4.6
Rathnapura	1	0.4
Puththalam	1	0.4
Sector: State	82	34.2
Non-State	158	65.8
Gender: Male	70	29.2
Female	170	70.8
Age: Less than 25	43	17.9
Between 26 and 35	113	4701
Between 36 and 45	47	19.6
Between 46 and 55	17	7.1
More than 56	20	8.3
Number of years in the post: Less than 5 years	114	47.5
Between 6 to 10 years	53	22.1
Between 11 to 20 years	37	15.4
Between 21 to 30 years	18	7.5
More than 31 years	18	7.5
Number of training programs attended: Less than 5 programs	118	49.2
Between 6 to 10 programs	76	31.7
Between 11 to 20 programs	26	10.8
Between 21 to 30 programs	8	3.3
More than 31 programs	12	5.0

Table 1: Demographic characteristics of the participants (n=240)

Current training need

The respondents rated all 30 items in the questionnaire through a seven-point scale by means of 'how critical the task is to the successful performance of the respondent's job' (importance rating A) and 'how well the respondent is currently performing the task' (performance rating B) likewise. Then each item was scored by mean values. Afterwards, performance mean values were subtracted from importance mean values to identify the needs gap (performance gap). Table 2 depicts that the importance rating (A) was higher than the performance rating (B) for all 30 items. The importance rating (A) indicated the range from a low of 5.05/7 for the item

"Assessing patients psychological and social needs" to a high of 6.19/7 for the item "Working as a member of a team". Similarly, the performance rating (B) indicated the range, from a low of 4.7/7 for the item "critically evaluating published research" to a high of 5.96/7 for items "getting on with your colleagues" and "working as a member of a team" for each. When considering the performance gap of each item, the range of the gap increased from a low of -0.25 (1) for item "assessing patients' clinical needs" and high of 0.53 (2) for "critically evaluating published research" items, which indicates that lower performance gaps are associated with the low training requirement and higher performance gaps are associated with the high training requirement.

Sub sections	Items	Mean values for Importance (A)	Mean values for Performance (B)	Difference between Importance and Performance (A-B)
Research/Audit	Critically evaluating published research	5.23	4.7	0.53
	Interpreting your own patient data	5.73	5.34	0.39
	Interpreting results from clinical investigations	5.41	5.21	0.20
	Identifying viable research topics	5.18	4.79	0.39
	Analysing patient data	5.21	5.24	-0.03
	Writing clinical, shift and other reports	5.35	5.14	0.21
	Collecting and collating relevant research information	5.24	4.77	0.47
	Identifying areas worthy of investigation in your practice	5.5	5.16	0.34
	Locating and access relevant equipment for your clinical work	5.72	5.45	0.27
Total mean value		48.57	45.8	2.77
Communication/Team work	Establishing a relationship with patients	6.13	5.81	0.32
	Getting on with your colleagues	6.11	5.96	0.15
	Communicating with patients face-to-face	5.62	5.25	0.37
	Providing feedback to colleagues	5.66	5.41	0.25
	Showing patients and their families how to do things	5.21	4.96	0.25
	Working as a member of a team	6.19	5.96	0.23
Total mean value		34.92	33.35	1.57
Clinical tasks	Treating patients	5.18	5.06	0.12
	Accessing relevant literature for your clinical work	5.35	5.07	0.28
	Prioritizing your work according to patient's needs	6.03	5.64	0.39
	Assessing patients psychological and social needs	5.05	5.11	-0.06
	Undertaking health promotion studies and prevention	5.29	4.97	0.32

|	activities			
	Assessing patients' clinical needs	5.29	5.54	-0.25 (1)
Total mean value		32.19	31.39	0.8
Administration	Doing paperwork and/or routine data inputting	6	5.74	0.26
	Using technical equipment, including computers	5.89	5.46	0.43
	Undertaking administrative duties	5.51	5.06	0.45
Total mean value		17.4	16.26	1.14
Management/Supervisory	Appraising your own performance	5.8	5.44	0.36
	Introducing new ideas at work	5.74	5.21	0.53
	Showing colleagues and/or students how to do things	5.83	5.24	0.59(2)
	Planning/organizing patients' treatment	5.31	5.01	0.3
	Making do with limited resources	5.76	5.54	0.22
	personally, coping with change in the health service	5.49	5.25	0.24
Total mean value		33.93	31.69	2.24

Table 2: Mean scores of importance, performance and the Gap (Importance – Performance) of each activity groups (n=240)

Therefore, all 30 items were segregated into five subcategories, as previously mentioned in the questionnaire tool. Figure 1 shows the performance gap for each subcategory. In all five sub categories, the means of performance score was lower than the means of importance score. Hence, the performance gap is positive. The lowest mean for the performance gap was found in the task of "Assessing patients' clinical needs (1)" while the highest mean for the performance gap was found in the task of "Showing colleagues and/or students how to do things (2)" respectively. Similarly, the lowest mean for performance gap was found in the "Clinical tasks" category and the highest mean for performance gap was found in "the research/audit" category. Subsequently, subcategories were segregated into two sections by considering their mean score values as follows.

i) All scores < 1.5: 'lower training needs'
ii) All scores > 1.5: 'higher training needs'

Then, the lower the gap indicated a lower training need requirement and the higher gap indicated a high training requirement. Figure 1 represented all five subcategories by their performance gaps.
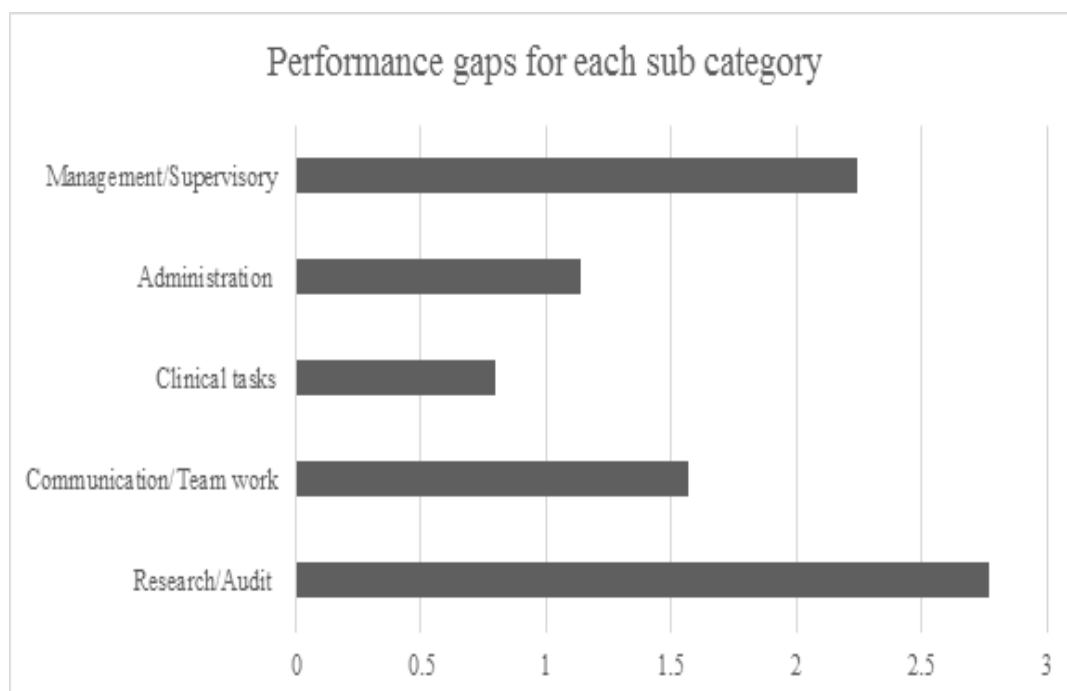
Figure 1: Performance gaps for each subcategory

Three subcategories were identified as having high-performance gaps in respectively, 'research/audit', 'management/supervisory and 'communication/teamwork' while 'Administration' and 'Clinical tasks' having a low-performance gap. This reveals that research/audit, management/supervisory, and communication/teamwork have the higher requirement of training than 'Administration' and 'Clinical task'.

In addition, a group comparison was conducted with job titles and performance of each professional group to see if the groupings had significantly different training requirements on each item. Table 3 displays significant results of each item (p<0.005). In total, 9 items were having significant training requirements. These are,

1. "Interpreting results from clinical investigations" (p=.001)
2. "Communicating with patients face-to-face" (p=.000)
3. "Treating patients" (p=.000)
4. "Showing patients and their families how to do things" (p=.000)

5. "Assessing patients psychological and social needs" (p=.000)
6. "Planning/organizing patients' treatment" (p=.000)
7. "Writing clinical, shift and other reports" (p=.000)
8. "Undertaking health promotion studies and prevention activities" (p=.000) and
9. "Assessing patients' clinical needs" (p=.000) correspondently.

The results indicated a significant training requirement for each profession regarding each item. For instance, in Table 3, the item no. 1 implies a significant requirement for 'Dentists' and 'MLT officer'. In item number two, implies a significant requirement for 'Nurses', 'MLT officers, 'PHIs 'and 'Pharmacists'. Moreover, the results indicated the 'Medical Practitioners (Doctors)' do not show any significant training requirement in the current situation while the 'MLT officers' having the highest significant training requirement for all the nine items as mentioned above; the lowest requirement is having by the 'physiotherapist' which only for two items. These are represented by the significant values as displayed in Table 3.

Items which are having significant training requirements	P values (sig.)	Implications
Interpreting results from clinical investigations	.001	Significantly more training is required for 2 and 4.
Communicating with patients face-to-face	.000	Significant training requirement in 3,4,5 and 6.
Treating patients	.000	Significant training requirement in 4,6, and 7.
Showing patients and their families how to do things	.000	Significant training requirement in 2,4, and 6.
Assessing patients psychological and social needs	.000	Significant training requirement in 2,4, and 6.
Planning/organizing patients' treatment	.000	Significant training requirement in 3,4, and 6.
Writing clinical, shift and other reports	.000	Significant training requirement in 4,5,6, and 7.
Undertaking health promotion studies and prevention activities	.000	Significant training requirement in 4 and 6.
Assessing patients' clinical needs	.000	Significant training requirement in 2,4 and 6.

Table 3: comparison of performance by job titles

1 = Medical practitioners, 2 = Dentists, 3 = Nurses, 4 = MLT officers, 5 = PHIs, 6 = Pharmacists, 7 = Physiotherapists, 8 = other.

Future training needs

Out of 240 respondents, only 105 respondents actively participated in responding to open ended questions. Hence, results findings identified 06 new training requirement categories except for the categories from the current training requirements which are,

1. Training on new equipment/technology/machines/medicines/technical actions and computer literacy.

2. Awareness programs on new deceases/disease control/infection control.
3. Language training/English proficiency
4. Stress management/mental illnesses.
5. Quality assurance/ standards/ISO/waste management
6. Emergency medical training/ICU/critical incident handling.

In Figure 2, the word cloud analysis highlighted words indicated as the most requested future training needs based on the frequency of word count, as per suggestions obtained from health staff. Moreover, Figure 3 illustrates the future training requirements based on the number of suggestions for each category.
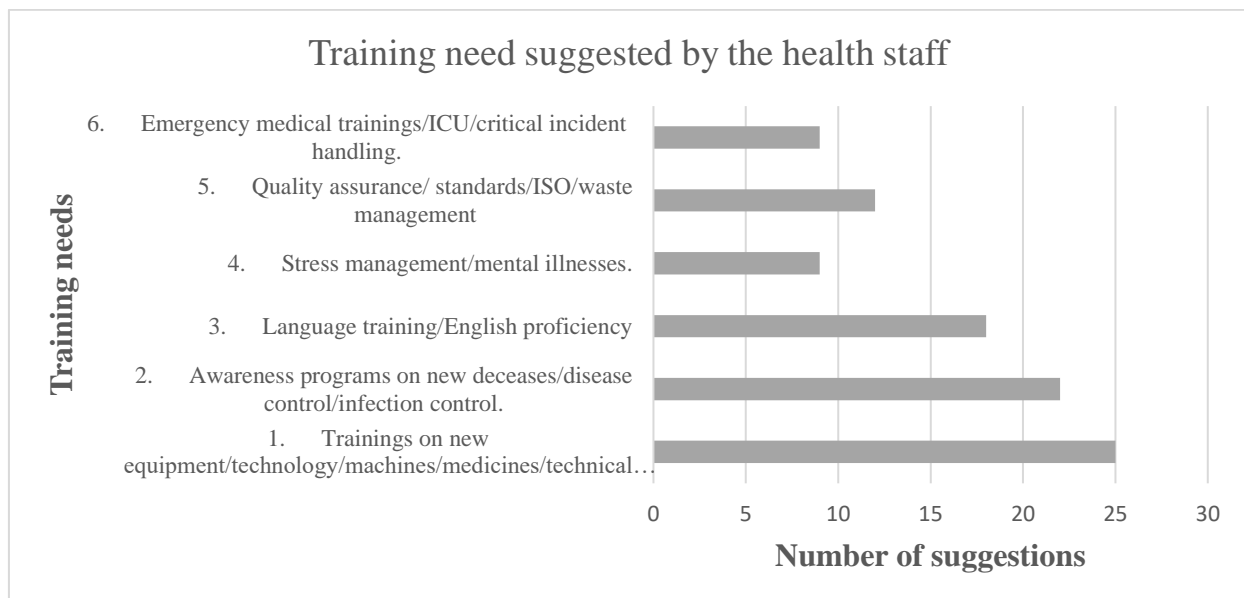
Figure 2 Word Cloud Output

Figure 3 Training needs suggested by the health staff

Hence, Figure 2 displays that the health staff is much keen to undergo training related to new equipment and medicines. Thus, the healthcare sector can be identified as a knowledge-driven industry that needs to be frequently updated (Wolfson, 2011). Therefore, considering the rapidly evolving technologies of healthcare, it is vital to be up-to-date on knowledge and skills, and handling of new equipment etc., to cope up with the new challenges.

Similarly, there is a high demand for workplace stress-reducing programs and emergency medical programs. Healthcare professionals are usually exposed to stress at their workplace in addition to the stress they usually experience in their day-to-day personal life. This situation is likely to have adverse repercussions on their work performance. Literature reveals that stress can arise because of peoples' lifestyle, environment, workload and financial status, whereas this issue demonstrated the enormity of challenges, as people or organizations face problems (Boyacı et al., 2014). For this reason, it is critical to have stress management programs in place for healthcare employees who can be considered as actors in healthcare organizations. Over time, work-related stress can deprive the performance of healthcare staff

including those in the frontline. Therefore, management should pay concern on the management of stress preferable as a proactive mechanism among healthcare professionals.

Moreover, emergency medical care is another vital training requirement especially in a developing country healthcare sector (Japan International Cooperation Agency, 2005). Knowledge, training and preparedness are essential to responding effectively in emergency medical situations (Naser & Saleem, 2018). Thus, studies recommend that healthcare organizations should plan, monitor and update their emergency operations on an ongoing basis (Dobricanin et al., 2018; Skryabina et al., 2017). Therefore, those requirements need urgent attention and deserve priority when organizations prepare for training programs.

Discussion

Respondents perceived all five categories of job tasks rated as higher than importance while their perception of performance on the tasks was rated lower than importance. Therefore, this shows a considerable need gap on job tasks of

healthcare workers. In other words, this signals that health professionals demand training programs when opportunities are impending.

In view of the research/audit category having the highest performance gap, turns out to be the highest training requirement. This category consists of high training requirements with tasks such as; 'critically evaluating published research', 'interpreting own patient data', 'identifying viable research topics', 'identifying areas worthy of investigation in practice' to mention a few. Thus, the clinical audit can be identified as a key function of developing high-quality patient care in every country; most importantly, it is a feature that can have a massive impact on countries that have comparatively lesser resources for health expenditures (Kongnyuy et al., 2008). Therefore, as a developing country facing budgetary constraints along with minimal resources available for the healthcare sector, research/audit is a critical function for Sri Lanka healthcare sector. Apart from expenditures on audits, conducting proper training programs for staff members involved in the functioning of audit cycles is essential (Mercer et al., 2006). Moreover, lack of training can be identified as a barrier to performing an audit successfully and eventually this tends to impair the quality of providing health services (Wallace et al., 2001). Similarly, clinical research training is recognized as a significant area in providing health services (Rajadhyaksha, 2010). Previous evidence indicates training programs on clinical research have not been conducted on a broad-scale in developing countries (Gaspard and Yang, 2016). Here, it can be assumed Sri Lanka is no exception. It is recommended that policymakers should implement strategies to enhance the involvement of health professionals in research work (David et al., 2020). Hence, the research/audit category deserves the highest priority when conducting training in the healthcare sector of Sri Lanka.

In addition, considering the management/supervisory category, literature emphasized that conducting training on managerial and clinical supervision is critical to provide quality health care practice and it specifies clinical supervision may not be effective without appropriate education (Kelly et al., 2001). In the findings of this study too, performance gaps in the management/supervisory category show considerable gaps in needs such as; 'showing others how to do things', 'appraising own performance' and 'introducing new ideas at works. Henceforth, the health worker's most important role is to share the knowledge, skills, experience and ideas with fellow workers (Werner et al., 2005). Thereafter, the item 'showing others how to do things' can be considered as an essential activity for health professionals. Moreover, this falls into a supervisory activity that encourages to improve the performance of health workers' by continuing education and planning for training in supervision (Fendall, 1980). Likewise, the past literature reveals that appraising own performance (self-appraisal) is a regular activity that allows health professionals to remain up-to-date in their areas of expertise (Gordon, 1992). Self-appraisal facilitates health professionals to learn from their experience, execute their duties effectively and in addition, strengthen commitment for their duties at the workplace (Marienau, 1999). Furthermore, as a tool, self-assessment allows employees to be aware of their performance and accordingly how they will be rewarded, and it gives a boost to perform well in future; most importantly it will motivate employees to do their best at work (Dharmadhikari & Bampoori, 2018). Much of the literature indicates the limited or poor application of self-appraisal in healthcare in developing countries (Bose et al., 2001). Further, the literature emphasized that healthcare organizations should strengthen awareness of their employees about the self-appraisal procedures and their benefits and encourage them to take initiative and be responsible in this regard (Dharmadhikari and Bampoori, 2018). Thereafter, in terms of the activity of

'introducing new ideas at works' is rated as the third highest gap in management/supervisory category, due to lack of employee innovative works. Hence, innovative healthcare is a core element of health professionals in services which leads to novel approaches in health treatments (Kessel et al., 2012).

Literature indicates that employees innovative work behaviour is mandatory for the effective functioning of health systems (West & Wallace, 1991). Thus, health services are critically dependent on healthcare employees' motivation (Kimberly & Evanisko, 1981). Prior research indicates that empowering health professionals leads to innovative behaviour and as well improve their motivation (García-Goñi et al., 2007). Therefore, it clearly shows that health care professionals need to be encouraged on innovative work behaviour. The innovative work behaviour in the workplace can be implemented by creating flexible work setting in healthcare institutions and allowing more autonomy in their jobs, thereby leading to empowering and motivating them (Knol & van Linge, 2009).

Additionally, communication/teamwork holds the third highest performance gap in health worker performance and past literature reported similar results as this study (Kol et al., 2017). Professional communication with the patient is a fundamental skill for all healthcare staff. Similarly, it can help build a therapeutic relationship with the patient. This interaction or the relationship between the patient and the health care professional is most likely to be influenced by the patient's emotions or feelings. Therefore, patients are diverse, hence their mental status varies and may depend on their social environment. Due to the diverse nature of the social background of patients, having awareness about a patients' mindset is somewhat a difficult task. In such a setting, healthcare staff may encounter some difficulties in having effective communication with patients. Studies prove that a patient's dissatisfaction is associated with poor communication skills in health staff (Chant et al., 2002). Nevertheless, healthcare professionals should be equipped with skills to manage the situation due to communication gaps and only if such employees can handle the patient with effective communication, they can achieve the highest patient outcome (Rajashree, 2011). Moreover, it has been proved that communication skill has a positive impact on health professional (Beck et al., 2002). In addition, effective communication can influence on patient's outcome (Hulsman et al., 1999). Studies point out that having continuous communication skills training for all health professionals employed in clinical departments is mandatory; this includes staff in the clinical service departments, whose contacts with the patients last usually for a short period (radiology staff, medical laboratory assistants, secretaries, and hospital porters) (Ammentorp et al., 2014). For these reasons, the training programs on communication should include having a general understanding of effective communication, common difficulties in communication barriers faced by professionals in clinical settings, adopting effective listening techniques and common barriers that may be encountered when building a relationship with a patient (Rajashree, 2011). By the same token, the WHO emphasizes that team-based healthcare is essential to minimize possibilities of miscommunication and misunderstanding in the roles and responsibilities of health professionals (World Health Organization, 2011). Therefore, effective team works will be beneficial for health care organizations, team members as well as patients. Literature shows that encouraging teamwork in hospitals can reduce time and cost in terms of hospitalization, enhance job satisfaction and employee well-being; this also decreases the possibilities for medical errors and improves the outcome of quality in healthcare (Babiker et al., 2014). Therefore, organizations can improve healthcare outcomes by empowering their employees,

enabling them to take initiative as a team player by means of incorporating employee engagement into the decision making process. Therefore, the policymakers should prioritize these requirements, as such assign high priority when devising training related strategies.

Considering the other two categories, administration tasks and clinical tasks, high gaps can be noted in 'using technical equipment' and 'undertaking administrative duties' in the administrative task's category while there are high gaps rated in 'prioritizing work according to patient's needs' and 'undertaking health promotion studies and prevention activities' in the clinical category. According to research studies on training needs in Nigeria, deficits are observed in most hospitals to supply medical equipment and new technology in low-income countries (Adewole et al., 2020). Further, accessing new equipment and technology will improve the in-service performance of the employee and the patient outcome (Rashad, 2014). According to these study findings, researchers suggested that, if the government is unable to provide sophisticated equipment, health professionals need to commence Continuous Professional Development (CPD) in order to fill the critical gaps in handling equipment. This approach can be cost effective to both health professionals and the government. Furthermore, similar results were reported on gaps in clinical tasks (Gaspard and Yang, 2016). One suggestion indicates that health professionals need periodic or regular updates on clinical areas because the real-world demands may vary as the situations change - such as work patterns, time, patient load and the environment and availability of resources to perform different tasks in clinical settings. Apart from these, there should be systematic planning in place for training programs to address on what areas training is lacking on each professionals' job roles such as; clinical tasks, communication, management and research works; These methods help improve employees critical thinking, managerial skills, knowledge on decision making and also enhances job satisfaction and accomplishment of organizational goals (David et al., 2020).

Additionally, this study appears to be much sensible on on-the job training in health settings which has a relatively greater impact on organization productivity and performance. Therefore, on-the job training method was recommended in past studies as an appropriate method to fill in training gaps in a more effective and cost-efficient way (Khan et al., 2011). Besides, considering the age limit of respondents', findings show that majority of respondents are young adults. Past study shows that this age group generally has high enthusiasm to learn new skills (Adewole et al., 2019). Thus, as an area that needs technical and innovative reforms, improving on learning new skills would be an advantage to the healthcare sector. In addition, this confirms with previous literature which indicates that need assessments are vital in health systems to help prioritize the training need based on available resources in lower-middle income countries where manpower, financial and material resources are in shortfall (David et al., 2020). Thus, this literature highlights the requirement and importance of the TNA. In sum, it can be concluded that this study results can make a positive effect concerning necessary changes on training in the healthcare sector of Sri Lanka. Therefore, the following suggestions are made according to literature in this area of research.

As the first step, health service providers need to design training approaches that are aimed to cover the skills gap in employee performance reflecting the training needs considered of each employee. Having qualified persons (managers, supervisors) is crucial, i.e. the task should be in the hands of experts with a sense of strategic perspective. When designing the TNA and training approaches in hospitals, policymakers should ensure sourcing the right mix of qualified personnel in

this regard. A study on nursing supervision reveals that supervisors should be well educated, with expertise and awareness of their role and responsibilities on how to train the employees (Dehghani et al., 2016).

In addition, the literature highlights that employee engagement is a key aspect of quality improvement in the organization (Gadolin & Andersson, 2017). Employees know best about the reasons behind their performance gaps. Therefore, managers need to obtain feedback on employee engagement and incorporate the same into the process of designing training programs, where the latter is mutually beneficial as well as serves the wider community. This way, managers can build a positive relationship with employees rather than excluding them/isolating them in decision making (Sendawula et al., 2018). By allowing more space to employees as well as empowering/delegating some authority in decision making, employees are being empowered as a key element of the organization. Previous literature indicates that organization can empower their employees by self-directed learning or by on-the job training (in-service training) while it can also encourage staff participation in designing and implementation of training programs (Chen & Klimoski, 2007). Therefore, policymakers in Sri Lanka's health sector need to promote employee engagement in designing and implementing training programs.

Then, Sri Lanka can consider adopting this training method as a country that has limited resources and faces budget constraints on health care.

Limitation and Directions for Future Research

The scope of the present study is limited to skills gaps and subsequent training needs of healthcare employees. Therefore, the present study does not focus on organizational development and related training courses which can also affect employee performance as included in the Hennessey Hiks questionnaire tool. Hence, this study eliminates the ratings C and D in the questionnaire tool used, as this domain is not relevant to the main objective of this study. This is identified as a limitation that also highlights the scope for future research in this subject area in Sri Lanka's health sector.

However, this study provides a holistic picture of training areas that lack training on health professionals of Sri Lanka. As such, much attention and effort should be put into including critical aspects of TNA. Therefore, conducting comprehensive research is useful while increasing the number of research studies on this area to promote awareness of the value of TNA in the healthcare sector of Sri Lanka.

Conclusion

The main objective of this study aims to identify the current and future training needs of health sector employees in Sri Lanka as well as areas that lack training. Based on data analysis and result findings, continuous training programs was recommended as the preferred approach to access the performance gap. This awareness of information regarding the training needs is beneficial for the health sector policymakers, managers, employees and the community. Therefore, the government can have access to reliable information and will be in a better position to formulate strategies related to healthcare, generate policies regarding the health sector employee training. When organizing training programs, having a focused approach on staff training needs can guide health sector managers for productive utilization of financial resources on employee training. Moreover, continuous training enables upskilling employees, assisting them to be up-to-date with the

latest technology and know-how. Having a better understanding of their job roles, performance needs and being involved in the decision-making process with self-appraisals on their training needs are likely to motivate healthcare sector employees for improved service quality. These strategic benefits will be reflected in positive outcomes on service quality, enhancing the quality of the overall healthcare system in the country. Finally, patients and the community benefit from these positive outcomes, experiencing a world-class healthcare system.

Acknowledgements

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