

TRAINING OUTCOMES OF HEALTHCARE WORKFORCE A STUDY OF PRIMARY HEALTH CENTRES IN AP

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ABSTRACT

Importance of training in organisations is strongly felt due to the rapid pace of business change which requires adaptability among employees. The rate at which organisation learns may become the only sustaining source of competitive advantage. Building learning environment and a coherent training strategy is important to balance between individuals and organisations in managing careers. Effective training programme needs to be integrated with a comprehensive development programme to reinforce the concepts and practices stressed in training on the job for developing a committed workforce. Health sector being a human resource intensive sector has a different environment for its employees to work in. The requisites that are demanded by this very important sector are commitment of employees who are highly motivated to serve the community 24 x 365 days. Employees in this sector are unique in their service orientation as they deal with the health of the public. The need for training of health work force is very obvious as they have to exhibit a lot of competencies while interacting with public. Competent workforce builds a positive learning environment in the healthcare sector which leads to a committed workforce. The present study focuses on the perception of health workforce in Primary Health Centres of Andhra Pradesh towards commitment as one of the training outcomes.

KEYWORDS: health care, primary health centres, training, commitment,

Introduction

Healthcare is one of India's largest sectors, in terms of revenue and employment, and the sector is expanding rapidly. During the 1990s, Indian healthcare grew at a compound annual rate of 16%. According to a market report in 2007 on the health care in India, the total value of the sector is more than \$34 billion. This translates to \$34 per capita, or roughly 6% of GDP. By 2012, India's healthcare sector was projected to grow to nearly \$40 billion. The Indian healthcare industry is growing at a rapid pace and is expected to become a US\$280 billion industry by 2020¹⁰. Rising income levels and a growing elderly population are all factors that are driving this growth. In addition, changing demographics, disease profiles and the shift from chronic to lifestyle diseases in the country has led to increased spending on healthcare delivery¹¹. In order to

meet manpower shortages and reach world standards India would require investments of up to \$20 billion over the next 5 years¹².

Health sector being a human resource intensive sector has a different environment for its employees to work in. The requisites that are demanded by this very important sector are commitment of employees who are highly motivated to serve the community 24 x 365 days. Employees in this sector are unique in their service orientation as they deal with the health of the public. The need for training of health work force is very obvious as they have to exhibit a lot of competencies while interacting with public.

Training has a number of outcomes at the organisational level. It develops competencies, creates a learning environment, builds confidence levels of health workforce, and upgrades their technical skills or knowhow, and increases commitment levels of workforce. This study was taken up to analyze the perception of health workforce towards the importance of training in Primary health centers and to study the influence of work related variables on commitment as one of the outcomes of training. It was observed that there were different opinions on the duration of training period which could be attributed to the training being given to employees according to the need of the health program to be implemented.

India being a rurally concentrated country, the health of rural population becomes of prime importance to both the central and state governments. Primary health centres (PHC's) are the first point of contact for rural public for their health problems. Hence, strengthening of PHC infrastructure as well as the quality and quantity of human resources becomes prime responsibility of the Governments. Many studies have been conducted on the status of infrastructure in PHC's and the gaps that exist in the area of systems and support as compared to Indian Public Health Standards (IPHS). The researchers found a gap in the area of human resource practices that lead to improving not only the technical skills of employees to meet the requirement for implementation of health programs but also enhancing behavioural skills in the employees to increase their commitment levels. The present study tries to focus on one such practice of human resource management i.e., training of employees which is one of the factors leading to increase in the commitment levels of employees.

Primary Health Centres

Primary health centres (PHCs) are the cornerstone of rural health care; the first point of contact with a qualified doctor. PHCs and their sub-centres are supposed to meet the health care needs of rural population. Each PHC is targeted to cover a population of approximately 20,000 in hilly, tribal or access difficult areas and 30,000 populations in plain areas with 4-6 indoor/ observation beds and is entrusted with providing promotive, preventive, curative and rehabilitative care. The PHCs are administrative centres for 5-6 sub-centres. This implies offering a wide range of services such as health education, promotion of nutrition, the provision of mother and child family welfare services, immunization, disease control, appropriate treatment for illness and injury, basic sanitation and safe drinking water supply. The PHCs are administrative centres for 5-6 sub-centres. These facilities are a part of the three tier healthcare subsystem; the PHCs act as a referral centre for the community health centre (CHCs), 30 bedded hospitals and higher order public hospitals at the district levels.

Training of Healthcare work force in PHC's

Building an adequate workforce supply, capable of addressing the health needs of the population, begins with the education and deployment of skilled health workers. The health workforce represents one of the key building blocks of health systems and has been identified as a priority for action for strengthening the systems. The WHO defines the health workforce as "all people engaged in actions whose primary intent is to enhance health." Health systems and services depend critically on the size, skills, and commitment of the health workforce. Health system's objectives are accessibility, equity, quality and efficiency.

Information on the levels and fields of education and training of the health workforce is critical for tailoring health labour training needs and for understanding the overall technical capacity of various health workforce cadres. This is particularly true in contexts of rapid scaling up of human resources development initiatives, where it is not uncommon to find wide differences in the training received among workers with the same occupational title, due to changes overtime in the standards of both basic and advanced education required for a health qualification.

To provide, within a phased, time-bound programme, a well dispersed network of comprehensive primary health care services, integrally linked within the extension and health education approach which takes into account the fact that a large majority of health functions can be effectively handled and resolved by the people themselves, with the organized support of volunteers, auxiliaries, Para medicos and adequately trained multi-purpose workers of various grades of skill and competence, of both sexes. To be effective, the establishment of the primary health care approach would involve large scale transfer of knowledge, simple skills and technologies to health volunteers. The quality of training of these health workers would be of crucial importance to the success of this approach⁵.

The training strategy of health work force is observed to be something different from the other sectors as here they are trained for various government health programmes. The focus of training is on the health programme implementation rather than on the development of the individual skills of the employee directly. But ultimately, the employees are gaining skills and developing themselves in handling various types of health cases. Though the process of training varies in this sector from other sectors the objective of training is fulfilled through employee development and public/ patient satisfaction. A health provider can get involved in a single activity or in multiple activities depending on the provider's capacity, interest and the requirements of the programme.

No matter how many individuals are educated and deployed, health professionals cannot transform population health unless they have the necessary competencies. Health professionals need to be technically competent and efficient but they also need to be able to work in teams, to adapt to a changing practice environment and to initiate change where needed. Training and supportive supervision may not only improve the quality of health worker performance, but it may also act as incentives that motivate health workforce in their jobs and make them committed to their jobs. According to the World Health Organisation, education and training is one of the four components needed to address the most critical health workforce planning, production and

management issues; qualification, management and planning being the other three components⁶. There are two main training components;

- (i) pre-service education, which tracks the level and field of education leading to qualification for a health occupation and
- (ii) Continuing education and in service training which update the professional knowledge, practice and skills of individual health service providers⁸.

Training in Vertical disease programs under the guidelines of Government of India is planned annually (Program Implementation Plan – PIP) at district level for all cadres in the PHCs. Vertical programmes are responses to key public health issues prioritized by the government. Vertical approaches are disease specific in their health focus and manage intervention-relevant systems functions through vertical structures. Broader, horizontal approaches address a wider range of health issues and may focus on a particular level of service delivery, with appropriate linkages with the rest of the system. And, this approach requires a more holistic management of health systems. Administrative training, especially for medical officers is arranged at the state headquarters and for drawing officers and senior /junior assistants the training is arranged at the district level. The district training officer is responsible for the trainings at district level.

Literature Review

No organisation in today's competitive world can perform at peak levels unless each employee is committed to the organization's objectives and works as an effective team member. The importance of employee commitment is quite evident if one considers prior research into the relationship between commitment and job satisfaction (Bateman & Organ, 1983), workplace justice (University of Pretoria etd – Coetzee, M (2005) (Moorman, Niehoff& Organ, 1992), trust in and loyalty to the leader (Deluga, 1994) and perceptions of supervisor fairness (Niehoff& Moorman, 1993).

Over the years, commitment has been defined and measured in many different ways. Indeed, this lack of consensus in the definition of the term has contributed greatly to its treatment as a multidimensional construct (Meyer & Allen, 1991). As indicated by Meyer and Herscovitch (2001), all the definitions of commitment refer to a force that directs a person's behavior. There appears to be consensus that the force is experienced as a mind-set (i.e., a frame of mind or psychological state). Employee commitment is defined as an individual's identification with and involvement in a particular organisation. It is characterized by a strong belief in and acceptance of the organization's goals and values, a willingness to exert considerable effort on its behalf, and a strong desire to maintain membership of it.

Commitment can be defined as "a stabilizing force that acts to maintain behavioral direction when expectancy/equity conditions are not met and do not function" (Scholl, 1981); a force that stabilizes individual behavior under circumstances where the individual would otherwise be tempted to change that behavior" (Brickman, 1987); an obliging force which requires that the person honor the commitment, even in the face of fluctuating attitudes and whims" (Brown, 1996); the relative strength of an individual's identification with and involvement in a particular organisation" (Mowday et al, 1979); the psychological attachment

felt by the person for the organization; it will reflect the degree to which the individual internalizes or adopts characteristics or perspectives of the organization” (O’Reilly & Chatman, 1986); a psychological state that binds the individual to the organization” (Allen & Meyer, 1990). (Source: Adapted from Meyer & Herscovitch (2001:311))

Organisations need employees who are willing to go beyond the call of duty and engage in extra-role behaviors. For this reason, research continued to examine the link between the three components of commitment and a multidimensional measure of work behavior. Allen and Smith (1987) and Meyer and Allen (1984) found that measures of work behavior correlated positively with measures of affective and normative commitment but not with continuance commitment. Research by Randall, Fedor and Longenecker (1990) revealed that affective commitment contributed significantly to the prediction of concern for quality, sacrifice orientation and willingness to share knowledge. Normative commitment contributed only to the prediction of sacrifice orientation, and continuance commitment did not add significantly to the prediction of any of these behaviors. These findings thus provide support for the proposition that the three components of commitment have different implications for work-related behavior other than turnover.

A study by Aon Consulting in Canada in 2000, which looked at the effectiveness of various organisational practices in building employee commitment, identified five key areas, namely (1) safety and security, (2) rewards, (3) affiliation, (4) growth and (5) work/life harmony (Madigan & Dorrell, 2000). According to the results of the study, 60 percent of employees reported that their co-workers improved their skills to make a better contribution to the organisation. Furthermore, 78 percent were satisfied with the training provided on the job. Human resource practices can be classified as “control” or “commitment” practices (Wood & De Menezes, 1998). The aim of control approaches is to increase efficiency, reduce direct labor costs, rely on strict work rules and procedures, and base rewards on outputs (Arthur, 1994). Rules, sanctions, rewards and monitoring thus regulate employee behaviour.

In contrast, commitment approaches aim to increase effectiveness and productivity and rely on conditions that encourage employees to identify with the organization’s goals and work hard to accomplish such goals. The practices that represent a high commitment strategy include selective staffing, developmental appraisal, competitive and equitable compensation, and comprehensive training and development activities (MacDuffie, 1995; Snell & Dean, 1992). The research carried out by Purcell et al (2003) established that one of the key policy and practice factors influencing levels of commitment was the training received by the employees².

Methodology

The data for the study was collected from primary sources through a validated questionnaire gathering the perception regarding various outcomes of training and work related aspects to fulfil the objectives of the present study. The samples were picked from three districts of A.P. i.e., Kadapa district from Rayalaseema region, Warangal district from Telangana region and Visakhapatnam from coastal region and 10 PHCs from each region were selected randomly on convenience. A total of 300 respondents of various cadres categorized into Medical (doctors), Paramedical (including nurses, lab technicians, health supervisors, health assistants) and administrative and support staff (including accountants, clerks, drivers etc.) were the respondents of the questionnaire. The perception of employees was recorded on a 5 point Likert’s scale.

Analysis and Findings

The sample was analyzed as a whole and by professional categories. Parametric t-test and F-test were used for comparison of means and to study the influence of gender, nature of job, age and years of service on Commitment as an outcome of training in PHCs. The null hypothesis was tested using the chi square. All analyses were performed with SPSS version 17.0.

Almost all the respondents in all the three categories of Medical, paramedical and administrative felt the need for regular training. The sample frequency distribution according to demographic and work-related variables is shown in [Table 1](#). The majority of respondents were male (58%) mostly due to the males dominating the medical and administrative cadres under study. By subgroups, doctors were predominantly males (70%) whereas in the paramedical category only 50.86% were males almost equal to females (49.14%). The almost equal number of females in this category might be because in the Multi-purpose health assistants and supervisors categories separate vacancies exist for females. The frequency distribution according to the nature of job is dominated by the permanent employees (82.9%). This predominance was also visible in all the three categories of workforce. The age distribution was 17.3% in the age group of 20-30 years, 37.67% between 31-40 years, 31.33% in the age group 41-50 group and 13.67% above 50 years of age. But it is observed that in the medical category, 50% of the doctors were in the 31-40 age group and only 10% of them in the age group of 41-50%. 36.67% of them were in the age group of 20-30 years and 3.33% in the above 50 yrs age group. This also may indicate that the training need for doctors to upgrade themselves with latest technologies was there. Even in the paramedical category highest number of workforce (37.93%) was in the 31-40 years age group. In the medical category it was observed that 56.67% of them were having less than 5 years of experience and 44.83% of the paramedical staff and 47.37% of the administrative and support staffs which were the highest had more than 15 years of service. This indicates that the doctors in the PHCs had relatively less experience than the other two categories.

Table 1: Demographic Variables of the Respondents

Demographic variables	Overall data (N= 300)	Medical staff (N =30)	Paramedical Staff (N= 232)	Administrative staff (N=38)
Gender				
Male	174 (58%)	21 (70%)	118 (50.86%)	35 (92.1%)
Female	126 (42%)	09 (30%)	114 (49.14%)	03 (7.9%)
Nature of Job				
Permanent	248 (82.67%)	27 (90%)	186 (80.17%)	35 (92.1%)
Contract	52 (17.33%)	03 (10%)	46 (19.83%)	03 (7.9%)
Age				
20-30 years	52 (17.3%)	11 (36.67%)	30 (12.93%)	11 (28.95%)
31-40 years	113 (37.67%)	15 (50%)	88 (37.93%)	10 (26.32%)
41-50 years	94 (31.33%)	03 (10%)	79 (34.05%)	12 (31.58%)
50 yrs & above	41 (13.67%)	01 (3.33%)	35 (15.09%)	05 (13.16%)
Years of service				
1-5 years	60 (20%)	17 (56.67%)	35 (15.09%)	08 (21.05%)
6-10 years	62 (20.67%)	11 (36.67%)	43 (18.53%)	08 (21.05%)
11-15 years	55 (18.33%)	01 (3.33%)	50 (21.55%)	04 (10.53%)
15 years and above	123 (41%)	01 (3.33%)	104 (44.83%)	18 (47.37%)

(Source : Primary data)

Almost all the respondents agreed with the opinion that there was a need for regular training in PHCs. Generally training in PHCs is programme oriented and not based on individual needs of the employees. But when the employees are trained for various health programmes they develop competencies and are capable of dealing various situations confidently.

The need for training was significantly felt by all categories especially the medical staff (doctors). There were no differences in the opinion of doctors under any of the work related variables. It was very significantly felt by Female workforce and the workforce in the age group of 20-30 and above 50 yrs in the administrative staff category also that they needed training. Interestingly only one statistically significant difference was observed in the paramedical category basing on the nature of job ($P = 0.018$) where permanent paramedical staff strongly felt the need for regular training as compared to the contract employees in that category.

Though training aims at creating a learning environment to develop competencies, upgrade technical skills, build confidence levels of employees to perform responsibilities of higher order and increase their commitment levels, the perception of health workforce in PHCs towards commitment as an outcome of training was observed through the mean scores as shown in [Table 2](#). Though all the categories of respondents have given their strong opinion that there was a need for training in PHCs building confidence through training was the highest ranked outcome in all categories of health workforce except in the medical category where they ranked commitment as the most significant outcome and building confidence as the second significant outcome of training. Paramedical staff has ranked developing competencies as the second significant outcome of training whereas the administrative staff has ranked commitment as the second significant outcome. Developing competencies was ranked as the third significant outcome of training by both medical and administrative staff. Creation of a learning environment was ranked fourth and up gradation of technical skills was ranked as the fifth significant outcome of training by the paramedical and administrative and the other way round by the medical staff. This indicates that training in PHCs has to be made more effective as only through a learning environment continuous learning is possible. Moreover, Technical skills appear to be significant only to the paramedical staff rather than the medical and administrative staff. Hence, it is an area to be focused on.

Health sector is constantly being introduced to lots of advancements in the medical field. The Government is introducing a number of health programmes to improve the public health especially in rural areas. Unless there is continuous education for doctors and technical training for paramedical staff, it is not possible for them to use these advancements. Training aims at creating a learning environment in any organisation. But training leading to creation of a learning environment was the lowest ranked outcome according to the study. This might indicate that either the quality of training had to be improved or frequency of training had to be increased for the healthcare workforce in PHCs.

Table 2: Training outcomes among different Professional categories.

Outcomes of training	Overall data (N = 300)	Rank	Medical staff (N= 30)	Rank	Paramedical Staff (N = 232)	Rank	Administrative staff (N = 38)	Rank
Confidence	4.44 (0.838)	1	4.63 (0.615)	2	4.41 (0.888)	1	4.47 (0.647)	1
Commitment	4.38 (0.919)	2	4.73 (0.450)	1	4.35 (0.951)	3	4.29 (0.956)	2
Competencies	4.36 (0.724)	3	4.47 (0.681)	3	4.38 (0.698)	2	4.13 (0.875)	3
Technical Skills	4.14 (1.172)	4	3.80 (1.215)	5	4.22 (1.121)	4	3.92 (1.383)	4
Learning environment	4.02 (0.985)	5	4.00 (1.017)	4	4.06 (0.933)	5	3.79 (1.234)	5

Training and Commitment Levels in PHC's

Commitment is one of the desired characteristics of health work force as they need to work round the clock throughout the year with dedication and involvement. High commitment levels in workforce lead to high patient satisfaction. Training is believed to increase the commitment levels in health work force.

Interestingly, significant differences were observed for increasing commitment through training (Table 3) in administrative staff (P= 0.018) where female staff were strongly agreeing with the statement. Contract doctors also shared the same opinion where significant differences were recorded (P=0.001). A null hypothesis framed and tested through Chi Square showed that in PHCs, training increased the commitment levels of health workforce. (**H₀ = Training does not increase commitment levels of health workforce in PHCs**). The table value of X^2 at 5 percent level of significance for 3 degrees of freedom is 7.815. The calculated value of $X^2=$ (218.800) is greater than this table value, so the null hypothesis is rejected and concluded that Commitment levels of health workforce in PHCs increased with training. Age and experience (years of service) had significant influence on the perception of health workforce that training increased commitment levels. Nature of job (permanent or contract) was having a significant influence on the perceptions of paramedical and administrative staff, whereas gender was influencing the perceptions of only medical staff. To test whether a significant difference existed among the sample means of the three categories ANOVA was used. According to F test on age and years of service, the calculated F values were less than the table values at 95% significance levels (Table 4.) and hence the variations between the categories are insignificant.

Table 3: Commitment levels through Training.

Demographic variables (N)	Overall data (N= 300)	Medical staff (N=30)	Paramedical staff (N= 232)	Administrative staff (N= 38)
Gender				
Male (174)	4.41 (0.820)	4.76 (0.436)	4.41 (0.808)	4.23 (0.973)
Female (126)	4.33 (1.043)	4.67 (0.500)	4.29 (1.079)	5.00 (--)*
	P Sig ² = 0.120	0.344	0.085*	0.018*
Nature of Job				
Permanent (186)	4.42 (0.936)	4.70 (0.465)	4.40 (0.972)	4.29 (0.987)
Contract (46)	4.19 (0.817)	5.00 (--)*	4.13 (0.833)	4.33 (0.577)
	P Sig ² =0.169	0.001*	0.105	0.246
Age in yrs.				
20-30 (52)	4.52 (0.641)	4.73 (0.467)	4.37 (0.718)	4.73 (0.467)
31-40 (113)	4.39 (0.807)	4.73 (0.458)	4.38 (0.778)	4.00 (1.247)
41-50 (94)	4.40 (0.987)	4.67 (0.577)	4.41 (1.019)	4.33 (0.888)
50 & above (41)	4.12 (1.269)	5.00 (--)*	4.14 (1.309)	3.80 (1.095)
Overall	4.38 (0.919)	4.73 (0.450)	4.35 (0.951)	4.29 (0.956)
	P Sig ³ = 0.213	0.943	0.576	0.209
Years of service				
1-5 (60)	4.42 (0.671)	4.59 (0.507)	4.31 (0.758)	4.50 (0.535)
6-10 (62)	4.35 (0.851)	4.91 (0.302)	4.16 (0.898)	4.63 (0.744)
11-15 (55)	4.62 (0.680)	5.00 (--)	4.62 (0.697)	4.50 (0.577)
15 & above (123)	4.27 (1.117)	5.00 (---)	4.31 (1.107)	4.00 (1.188)
Overall	4.38 (0.919)	4.73 (0.450)	4.35 (0.951)	4.29 (0.956)
	P Sig ³ =0.130	0.252	0.113	0.371

1. Reported on a 1-5 scale with higher values corresponding to higher degree of agreeability
2. According to T-test
3. According to ANOVA

Table 4: Analysis of variance by age

Category		Sum of Squares	df	Mean Square	F	Sig.	5% Table value of F
Medical staff (N=30)	Between Groups	.085	3	.028	.127	.943	2.98
	Within Groups	5.782	26	.222			
	Total	5.867	29				
Paramedical Staff (N=232)	Between Groups	1.804	3	.601	.663	.576	2.60
	Within Groups	206.915	228	.908			
	Total	208.720	231				
Administrative staff (N=38)	Between Groups	4.167	3	1.389	1.593	.209	2.84
	Within Groups	29.648	34	.872			
	Total	33.816	37				

Analysis of Variance by years of service

Category		Sum of Squares	df	Mean Square	F	Sig.	5% Table value of F
Medical staff (N=30)	Between Groups	.840	3	.280	1.448	.252	2.98
	Within Groups	5.027	26	.193			
	Total	5.867	29				
Paramedical Staff (N=232)	Between Groups	5.383	3	1.794	2.012	.113	2.60
	Within Groups	203.337	228	.892			
	Total	208.720	231				
Administrative staff (N=38)	Between Groups	2.941	3	.980	1.079	.371	2.84
	Within Groups	30.875	34	.908			
	Total	33.816	37				

Findings

The findings of the present study indicated that there was a felt need for training of healthcare workforce in PHCs. Creation of a learning environment was found to be of utmost importance in view of the constant technological and medical changes in the healthcare sector. A learning environment could be created through training which would retain the employees' job satisfaction as well as build their confidence levels and competencies. Though increase of commitment through training is ranked highest by only medical category respondents, the overall data, paramedical and administrative categories show commitment as an outcome of training only next to building confidence levels in healthcare workforce as an outcome of training in PHCs. The importance of training was reiterated in the study and it was also identified that age, gender, nature of job and years of service had a significant influence on commitment levels of health workforce through training in PHCs. Age and experience (years of service) had significant influence on the perception of health workforce that training increased commitment levels. Nature of job (permanent or contract) was having a significant influence on the perceptions of paramedical and administrative staff, whereas gender was influencing the perceptions of only medical staff. It was observed that training increases commitment levels of health workforce in PHCs and that was very essential for the effective performance of PHCs.

Conclusion

Health sector is one of the vital divisions in the service sector as it is a primary requirement of all people in a country. Development of this sector is a great challenge to India since this sector faces several problems, which include vast population, paucity of resources and non-availability of affordable health care to the poor. It is necessary to appreciate that the effective delivery of health care services would depend very largely on the nature of education, training and appropriate orientation towards community health of all categories of medical and health personnel and their capacity to function as an integrated team, each of its members performing given tasks within a coordinated action programme.

With healthcare becoming so technologically advanced, properly trained and competent workforce who is committed to the health of the society is essential to any successful health care system. Effective knowledge management, which includes knowledge transfer, is increasingly being recognized as a crucial aspect of an organization's basis for long-term sustainable, competitive advantage. National strategies for health should aim at enhancing skills, training for continual learning, and fostering leadership and entrepreneurship- all supported by a pipeline of learning investments in pre-service education and in-service training.

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