CHAPTER 3
RESEARCH METHODOLOGY

The chapter provides a theoretical underpinning of the concepts that have been used in the study based on the review of literature and the need of formulating the study. Literature review is a body of text that aims to analyse, and evaluate critical points about a specific topic.

Review of literature focuses on the critical issues of current knowledge on the topic of the study. The main purposes related to literature are:
1. To analyse relevant research carried out on this particular research topic
2. To identify the concepts related to it as well as to analyse relationship between them and to formulate the research hypothesis
3. To study how others structured their reports

For the purpose of this study a lot of literature has been received, that is, books, journals, magazines, newspapers, etc.

3.1 Review of Literature

Motivation creates energy which inspires, incites, urges, influences, impels, and moves one to action\(^1,2\). The psychological process which stimulates and sustains behaviour is known as motivation\(^3\). David McClelland, in the 1960s, identified motivation as a teachable and a necessary predecessor for the development of entrepreneurial behaviours. These studies were done cross-nationally, including India, and Colombia\(^4,5\). The community of psychologists believe that motivation is a process of decision making wherein individuals choose desired outcomes and set in motion behaviour suitable to obtaining them\(^6\).
Survival is the key which encompasses the need of having motivated employees. Problems that occur in managing people at work and getting high productivity in many organizations is due to low levels of employee motivation. Moreover, in the competitive market environments and the fast changing workplaces, organization’s survival and success are largely dependent upon the motivated service employees and their contributions.

Taylor, advocated for providing monetary incentives to employees and also suggested the breaking down of large processes to arrive at the single best way to perform a task which would help increase productivity but, this approach often led to strikes and resentment by workers. The incoming of content theories linked need satisfaction to worker motivation.

Job satisfaction is a culmination of motivating factors which are related to job content or context. The influencing factor of motivation as put forth by the process theories emphasize on the values of workers or subjective expectations as influencing work effort and motivation. The importance of ability and willingness of an employee to carry out the goals of the organization in which they work was stressed upon. Job characteristics along with organizational commitment and conscientiousness have been described as critical determinants of health worker satisfaction and motivation, and also identified as a core domain in the measuring health worker motivation.

The explanation and prediction of what sustains, directs and energises human behaviour is given by motivation. Motivation as a concept refers to the sum of forces expended at work by an individual that accounts for the level, direction and persistence of his efforts. It can also be called the vital link between competence and performance, thinking and action, and knowing and doing. Job performance has
been linked to motivation and ability; of the two components, motivation can be improved quickly as improving ability is a slow process, therefore by implication, improvement in motivation can lead to improved work performance\textsuperscript{13}.

The findings of a survey conducted in Massachusetts, USA are of particular importance. The study compares two different time scenarios and situations of 1986 where there was virtually no restraint on health care spending in, with the situation in 1997 where there were growing constraints on costs by health care plans. The results showed that satisfaction among primary care physicians declined substantially, particularly in relation with personal autonomy, work family balance and the time spent with individual patients\textsuperscript{14}.

Knowing what affects physicians’ work-related satisfaction, in an era of significant reorganization of the health care systems coupled with enormous pressure on physicians is important.

In the Public health system a satisfied and highly motivated workforce is of prime importance as service delivery and its quality are directly related to the motivational status of employees\textsuperscript{15}. Patients are of utmost importance in the public health sector and they should be regarded as worthy of utmost consideration and the best care within available resources for maintain quality in health care.

Empirical studies in the United Kingdom report that general practitioners called upon various quality standards where targets pertained to – up to 40% reduction in death rates from some specified ailments, reduced maximum waiting times for visits to clinics of general practitioners, and yearly improvement in satisfaction level of patients. These were called –“Investors in People Standards” and
were reinforced by the principles of Total Quality Management (TQM), which also has its anchoring in employee motivation.

A later study which also took place in the United Kingdom revealed that the National Health System had a lot of challenges in relation with tackling the problem of recruiting and then retaining key staff among nurses and doctors because of the problems of low morale and motivation\textsuperscript{16}.

The importance of human resource and the declining number of specialized technical staff in health was well recognized and WHO also put across “Working Together for Health” as its theme for year 2006 to draw attention to this increasingly decreasing resource at a global level. Putting this as the theme signified the requirement of appropriately preparing, deploying and supporting health workforce\textsuperscript{17}.

In the very same year Kabene\textsuperscript{18}, highlighted the significance of HRM in improving patient overall health outcomes and health care service delivery and also gave the global perspective of the health care system. The paper revealed the essentiality of human resources management to any health care system to improve health care models.

Lehmann\textsuperscript{19} provides a bird’s eye view of the severity in terms of shortage of staff and distribution of health workers faced by low-income countries. His work highlights that, many middle- and low-income countries today face difficulty in creating, hiring, and retaining health personnel, in remote areas. The contributing factors to the flight of health care personnel from remote areas include - poor working conditions, low salaries, lack of proper infrastructure and equipment, lack of proper supervision, etc.
Both developed and developing countries face the problem of uneven distribution of health professionals\(^{20}\). As per Zurn\(^{21}\), “Although, 50% of the global population lives in rural areas, these people are served by only 38% of the total nursing workforce and by less than a quarter of the total physicians’ workforce”.

The reason probably is extended by Awases\(^{22}\) when he states that most professional working in the health system move in search of opportunities for professional development, improved salaries, better living and working conditions. The change could be from public to private sector, rural to urban; or one country to another.

Zurn et al\(^ {21}\) commented on the strategies adopted by developing countries. He stated that, “in addition to salary incentives, developing countries use other strategies such as housing, infrastructure and opportunities for job rotation to recruit and retain health professionals, since many health workers in developing countries are underpaid, poorly motivated and very dissatisfied.”

Cassels\(^ {23}\) has explored the meaning, context and practical implications of reforms in the public health sector of LDCs and reviewed problems that reforms were set to address, and objectives that policies were designed to achieve. In his paper, he argues that reform as a process is not all about refining policies and defining priorities, but has more to do with restructuring and reforming institutions from where the implementation of these policies takes place.

Political support is the most important variable in shaping the success of any reform, the choice of reform options though may be influenced by technical advice and analysis. Closely related to political support, is the policy making scenario. Friel\(^ {24}\) recognized the need to improve human resources for health in low and middle income
countries by introducing more systematic reviews and assessments on effects of policy options.

Alwan et al.\textsuperscript{25} has criticized the public health sector in India for its inefficiency and ineffectiveness. The reasons for this are many. The majority of public health institutions have gaps related to availability of human resources, infrastructure, medicine, equipment and support services.

The key component of any health systems is its human resource. The remuneration given to them; makes up to 2/3rds of recurrent health budgets. Adequate availability of human resources is central for any big attempt at increasing reach of the health systems. In addition, the availability of human resource largely determines the capacity of absorption of any additional financial resources and therefore regulates the pace of scaling up.

3.2 Need of the Study

The experience world-wide shows that positive impact is anticipated from reform efforts to improve the effectiveness of health system (i.e. rationalization of the role of government, promoting efficient management, and improving resource availability and allocation) have more often than not been thwarted by the “unexpected” behaviour patterns of the health workforce. The actions of individuals working in the system leave a great impact on the efficiency and effectiveness of the health care systems.

Desired work behaviour does not stem from factors such as the technical competence and availability of resources alone. The goal of providing high quality health care is thwarted by daily unresolved frustrations of personnel working in the
health service delivery system as it reduces their willingness to exert and maintain efforts quality service. More so, these frustrations sometimes are turned onto clients in the way of resentment and unfriendly behaviour. As health care delivery is highly labour-intensive, equity, efficiency and service quality, are directly affected by the motivation of the workers. Therefore, motivation of the health workforce is of critical importance.

Motivation in itself cannot be observed; the results of the motivation process (like improvement in performance) or, some motivational determinants are the only elements that are observable. The reflection of an individual’s specific situation and environment are the results of internal processes of motivation. Therefore, motivation can also be termed as a transactional process: as it is dependent on the aptness between the individual, organization, and the larger societal context.

While many health system development aspects have been researched in the international context, there has been a surprising lack of attention to the human resource elements. There is a dearth of studies in regard with understanding health workforce motivation and therefore, a core element of the evidence essential for policy making is still missing. Because of the lack of information about the determinants of motivation which have an effect on the health workforce, governments more often rely excessively on monetary inducements for better service delivery and quality.

As an example, monetary incentives have been used explicitly as a policy tool in Thailand\textsuperscript{26} and Indonesia\textsuperscript{27} explicitly. The effectiveness of pay related with performance in the context of the public health sector is a substantial discussion of prospects for developing countries\textsuperscript{28}. The underlying philosophy of reform programs in the
health sector programs often suggests money to be a key motivator in the work context, even if, financial incentives are not explicitly used to promote higher productivity.

### 3.3 Scope of the Study

The idea that monetary incentives play an important role in determining employee retention is well accepted, but it is also apparent that monetary incentives alone cannot resolve all work motivation related problems. Furthermore, a disproportionate amount of focus on monetary incentives to motivate workers in the public health sector may lead to a lot of negative consequences. In the words of Giacomini, “Workers may see monetary rewards as more important than other type of rewards such as praise from supervisors or appreciation from the community, or they may feel conflict between their own notion of public sector values and messages about working for financial gain.”

As presented above about the lack of understanding on issues regarding motivation of the health workers, the study would be a stepping stone towards the overall goal of improving the motivation of the public health workforce and thereby, would help in improving health system performance. The study is needed to broaden the understanding of the determinants which affect motivation beyond simply monetary incentives to non-financial, less tangible, instruments like – community participation, feedback, recognition, etc. The study would therefore be a step towards the ultimate aim of improving worker motivation and satisfaction, thereby improving performance of the health system in the state of Rajasthan.
3.4 Objectives of the Study

The specific objectives which were drawn include the following-

- To determine the existing gap between the staffing patterns in accordance with the Indian Public Health Standards
- To analyse the existing human resource policies of government medical practitioners in Rajasthan
- To identify the various factors affecting motivation of government medical practitioners.
- To compare the motivation of government medical practitioners at Community & Primary Health Centres in Rajasthan
- To determine the correlation between motivation of government medical practitioners and their job satisfaction.
- To find the job satisfaction level of government medical practitioners working in rural Rajasthan

3.5 Hypothesis

The hypotheses on which the study rests were mentioned as below:

- HA₁ – There is a difference in the level of motivation of government medical practitioners at CHCs and PHCs in Rajasthan
- HA₂ – There is a positive relation between motivation and job satisfaction of government medical practitioners in Rajasthan
3.6 Context

Work motivation as defined in the study is “An individual’s degree of willingness to exert and maintain an effort towards organizational goals”. It is also important to remember that motivation cannot be directly observed as it is an internal psychological process. Therefore, the focus should be on the inputs that are made to the process of motivation, which can also be called the determinants of motivation.

The context used by the study includes laying out the determinants of motivation which operate at the individual and organizational level. Examples of some determinants of motivation which operate at individual level are – the differences among workers while working as a team, consequences of behaviour at work and its expectations, perception of goals and self-efficacy, and perceptions of the work context. Determinants of motivation which operate at the organizational level include – the perception of workers about the availability of resources, processes followed in the organization, organizational culture and management. Common issues at work such as the ability to get along with colleagues, conscientiousness, timeliness, attendance etc were used to address a generic measure of worker ‘behaviour’.

In the past, Job satisfaction was viewed from the perspective of need fulfilment. However, for the present study, job satisfaction has been defined as how people feel about different aspects of their jobs. Attempt has been made to capture the various aspects of job satisfaction including – financial incentives, supervisions, and other aspects of organization behaviour.
3.7 Research Design

The study was exploratory in nature. The study reviewed the existing human resource policies, and health action plans used for developing health infrastructure in contrast with the Indian Public Health Standards, it also studied the distribution and availability of human resources for providing services. The survey method was used to collect data for the research study.

- **Population** – The population of the study included all doctors posted in rural CHCs and PHCs in Rajasthan.

- **The Sampling Frame**– All seven administrative divisions of Rajasthan were covered. To conduct in-depth study, from each of the administrative divisions, two districts were selected based on their proximity to headquarter. One of the districts was the headquarter district, and the other was the farthest from headquarter. The districts were selected in consensus with the Chief Medical and Health Officer (CMHO). The methodology was adopted as the areas farthest from headquarter are less developed and hence takes into account all regional disparities. The districts chosen from each of the administrative divisions are as below –
  - **Ajmer division**: Ajmer division includes the following district - Ajmer, Tonk, Bhilwara, Nagaur. Ajmer and Tonk were chosen from the Ajmer division
  - **Bharatpur division**: Bharatpur division has four districts namely Bharatpur, Swai Madhopur, Dholpur, Karuali. Bharatpur and Sawai Madhopur were chosen from the Bharatpur division
12

- **Bikaner division**: Bikaner and Sri Ganganagar were chosen amongst Bikaner, Churu, Hanumangarh, and Sri Ganganagar of the Bikaner division.

- **Jaipur division**: The Jaipur division consists of Jaipur, Alwar, Jhunjhunu, Sikar, Dausa. The districts of Jaipur and Jhunjhunu were chosen from this division.

- **Jodhpur division**: The Jodhpur division has a total of six districts in its ambit namely, Jaisalmer, Jodhpur, Barmer, Jalore, Pali, and Sirohi. Jaisalmer and Jodhpur were the two districts that formed a part of the study from this division.

- **Kota division**: Of the four districts- Baran, Bundi, Jhalawar, and Kota of the Kota division, Jhalawar and Kota were chosen for being a part of the study.

- **Udaipur division**: The Udaipur division consists of six districts namely- Banswara, Udaipur, Chittorgarh, Rajsamand, Dungarpur, and Pratapgarh. Banswara and Udaipur were a part of the study. The same has been illustrated in the map below.
Figure 3.1: District Map of Rajasthan State showing districts selected for the study

Field visits were made to a few of the health facilities at each level in two of the blocks which were selected per district. These two blocks were the ones where the maximum and minimum allocation of human resources had been made. Human resources were the doctors allocated per block against the sanctioned positions. Once the blocks will be decided, two Community Health Centres/First Referral Units, and four Primary Health Centres were visited in each block to understand the determinants of motivation of these doctors. The table 3.1 shows the number of health facilities which will be visited per category.
Table 3.1: Number of health facilities visited per category

<table>
<thead>
<tr>
<th>Region</th>
<th>Districts</th>
<th>First Referral Unit/ Community Health Centre</th>
<th>Primary Health Centre</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ajmer</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Bharatpur</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Bikaner</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Jaipur</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Jodhpur</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Kota</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Udaipur</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>28</td>
<td>56</td>
<td></td>
</tr>
</tbody>
</table>

- **Sampling Element**- Individual doctors working as a part of the rural public health system were the sampling elements of the study.

- **Sampling Technique** – Non probability purposive sampling was used for identifying the respondents of the study.

- **Sample Size** - The total number of sanctioned positions as collected from the directorate of Medicine and Health as on September 2012 was 4909 of which 3400 are in position the rest of the posts are lying vacant. Therefore the overall sample size for a population of 3400 with 95% confidence level and a confidence interval of 6 was taken as 247 doctors. The sample was further divided into demographic groups.

### 3.8 Techniques used for Data Collection

Both quantitative and qualitative methods were used to collect the required information. While quantitative information in regard with the number of doctors was collected from all 33 districts, qualitative information and specific quantitative information was collected from the sites and health facilities which were visited. Data collected includes:
Research Methodology

• **Review of policies, records and reports on Human resource for Health.** All the collected information was reviewed with respect to the policies and norms and situational analysis was done on the availability and utilization of services.

• **Structured interview** with State, District, Block and Village health facility heads/ Medical practitioners (Medical Officers, Senior Medical Officers, Rural Medical Officers, Senior Specialists, Junior Specialists) to understand their view on the prevalent Human resource policies in the state and to build understanding on the existing scenario and suggestions were sought to increase the motivation level of doctors.

• Self-designed **structured questionnaire** based on an extensive survey of literature were prepared to understand the determinants which affect motivation. The responses for close ended questions related to motivation and satisfaction were obtained from the doctors on a Likert-type scale of 1 to 5 for all variables.

3.9 **Techniques Used for Data Analysis**

• **Descriptive statistics** was used for understanding the data like including mean and standard deviation. Descriptive statistics helps in summarizing the data and is a discipline of describing the main features of a collection of information through quantitative methods.

• **Reliability**– To begin with internal consistencies of the measures were established through item to total correlation. To check the internal consistency of the measures, the Pearson correlation was calculated between the item scores and total scores.
Cronbach’s Alpha reliability of measures was then calculated using SPSS software (Version 16). Reliability was computed to check whether data items measured the variables they were supposed to measure and that the measures were stable when used for repeat measurements.

- **Validity** – To assess the validity of the questionnaire, the face validity method was used.

- **Factor Analysis** – In order to identify the underlying factors of motivation among government medical practitioners the principal component analysis was applied.

- **Independent sample t test** – The independent sample t test was applied to understand the difference in the level of motivation of doctors working in the CHCs and PHCs

- **Regression Analysis** – Linear regression was used to gauge the effect of motivation on job satisfaction of government medical health practitioners. To further statistically prove the results achieved from the same ANOVA was also applied.

### 3.10 Pre-Testing

The pre testing of the schedule was important in order to establish the relevance and sequencing of the questions of the instrument and to make the required further revisions to rectify them. Pre-testing fulfilled other purposes as well which were: (1) To elicit responses required to achieve the research objectives, (2) for relevant and adequate content of the instrument, (3) for clear wording of questions suited for understanding of the respondents, (4) for question structure and question sequence.
In order to determine the level of motivation of doctors it was essential to look into the factors affecting motivation. For this purpose a 40 items tool was developed based on extensive review of literature and discussions with the doctors in the public health set up. This tool was administered to 50 doctors in and around Jaipur. The data received from the same was used to check the reliability of the scale that was developed.

As per Mehta S.30, “since summated scales are an assembly of interrelated items designed to measure underlying constructs, it is very important to know whether the same set of items would elicit the same responses if the same questions are recast and re-administered to the same respondents. Reliability comes to the forefront when variables developed from summarized scales are used as predictor components in objective models. Variables derived from the test instruments are declared to be reliable only when they provide stable and reliable responses over a repeated administration of the test.”

For this purpose, Cornbach’s Alpha reliability test was applied. The results of the test have been shown in table 3.2.

Table 3.2 : Reliability Statistics

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.671</td>
<td>.685</td>
<td>40</td>
</tr>
</tbody>
</table>

As it can be seen that the score of Cornbach’s Alpha was less than 0.7 therefore, after applying inter-item correlation and descriptive for scaling if item is deleted, Two items from the scale were deleted, including – timeliness and attendance.
Table 3.3: Reliability Statistics using Cronbach’s Alpha

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.710</td>
<td>.716</td>
<td>38</td>
</tr>
</tbody>
</table>

After reducing the items to 38 Cornbach’s Alpha was re-applied and the result has been shown with the help of table 3.3. As can be clearly seen from the table the score of Cronbach’s Alpha based on standardized items is .716 which is > .70. Therefore, the scale can be re-administered and is reliable for further use.

### 3.11 Limitations of the Study

Although, every effort was made to make the study extensive and it was able to reach the goal it set out for, some limiting factors include-

1. The scope of the research is limited to the area in which it was carried out and the same might not be of use in different geographical and social conditions.

2. Time and cost constraints and the distances involved in the research study was a major limiting factor as multiple visits needed to be carried out to reach out to the doctors.

3. Absenteeism of doctors was also another limitation, which was a roadblock during data collection.
References


productivity and quality and a moral hazard. *Human Resources for Health Development Journal, Volume 1(2).*


