



Review Paper

Efficient Management Applications for Boosting Dental Practice: A Review

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Abstract

This paper critically reviews the significance of management pragmatism in a dental practice. The traditional dental care services which have existed for hundreds of years and have wide acceptance and application throughout India need to be rejuvenated and integrated with the existing corporate pace. With the increasing dental care awareness, dental practice has entered into the corporate frame. Best quality of diagnosis, equipment, materials and service get translates to best treatment results, skill development, patient satisfaction and the most self satisfaction. Speaking management is not just the financial issue but in real it is the management of manpower, material, machines and minutes (time). The basic managerial facet of a dental practitioner is to use the above said resources efficiently for providing appropriate patient care, treatment options and a dynamic environment. This all will come true when a dental practitioner will have the proficiency with the basic managerial skills of managing Human Resource, Finances, Clientage, Material and Equipments, Waste Disposal etc.

Key words: Management, Human Resource, Financial Management, Record Keeping, Queuing Theory, Behavior Management, Motivation, Material Management, Waste Management.

Introduction

To understand management, first we have to know “ What management is all about?” The principle and process of management is to achieve the objectives in an effective and efficient way with minimum use of resources. Management has an organized body of knowledge, which draws knowledge from statistics, quantitative techniques, financial theories, and economics and so on. The resources here are the manpower, money, material and minutes. These resource elements, if invested precisely will result in achieving the preset objectives to a superior level. For ease of understanding and studying the process of management, it is convenient to break it down into separate functional parts. The major management activities are Planning, Organizing, Leading, Implementing and Controlling. Planning is selecting and setting the mission and objectives. Organizing means enlisting the different activities required to achieve the set plan. Leading is directing, controlling and budgeting the plan, Implementing is the implementation of activities and finally controlling all activities to measure the performance to achieve the set goal. Keeping these managerial elements in mind lets discuss their execution for strengthening of our routine dental practice.

Methods

To study management prospects insinuation in a dental practice, it is explained at two fronts respectively:

1. The clinical front which basically includes:

- Management of manpower,
- Work effectiveness,
- Patient appointment management,
- Record keeping
- Motivation of employees and clients

2. The non clinical front which explains the managerial aspects of dealing the following

- Equipment and Material management:
- Utility Service Management
- Waste Management and Minimization

Application of managerial elements in a dental practice

After having a glimpse of management elements and functions we may now better understand their application in the clinical and non clinical dental practice.

Management applications boosting patient care and clientage hand in hand

Management of Manpower

It is the art of getting things done by people. It is basically human resource management. In a clinic whether small or big we have people who work for us or with us. It is very critical to use their skills and competence in an effective way, say for a dental assistant in spite of his training he may not dedicate himself to his duties. The same may be true for other staff also say a colleague or receptionist. This lack of dedication will result into poor coordination and therefore less effective dental health care delivery. This does not fit to a corporate frame. To deal with this we have to learn the art of *leadership, team building and motivation*. Leadership is the quality to guide people for organized effort. We have to create an influence so as to improve their performance and dedication. Dentistry is always a teams' task and with quality teamwork and motivated staff we can serve with excellence.

Leader is one who guides the work group more towards the goal of effective patient care. Being a leader one must learn to direct, support and influence the overall performance of the work group as per the situation dictate. Team work and individual dedication is also significant. For enhancing the individual dedication of team members we should try to infuse *job enrichment* techniques like:

- Financial reward
- Status and praise
- Acknowledgment
- Job security
- Perfectionism
- Variety of work content

This managerial aspect of our clinical practice is definitely going to improve the loyalty and commitment of the people we have at our work place.

Management of Work Effectiveness:

The management of our own work skills for serving effective dental care for effective number of patient defines the work effectiveness. One's clinical practice has just not to reflect the raised number of patient but the raised number of efficiently treated patients. We have to stay updated with latest trends and technology, latest diagnostic tools, good quality equipments, latest researches. This all provide us with better treatment possibilities and up gradation of our clinical skills. This enable our patients to avail the treatment option which best fits to them according to their economical and social status.

There is a term 'Operational Research' in management. It is an interdisciplinary science that focuses on the effective use of advanced analytical techniques to improve decision making. Because it makes sense to make the best use of available resources. Today's global markets and instant communications mean that customers expect high-quality products and services when they need them, where they need them. This operational resource approach supports a dentist to seek scientific methods to study the alternatives in a problem situation so as to arrive at an optimum solution. The problem may be related to

- Diagnosis,
- Treatment plan,
- Legal aspects of clinical practice,
- Dentist – patient relationship,
- Bills and accounting,
- Clinical lay out and so on.

Or is a simplified representation of an operation in which only the basic aspects or the most important features of a typical problem under investigation are considered. Constructing a model aids in putting the complexities and uncertainties attending a decision-making problem into a logical framework amendable to comprehensive analysis. By making an interdisciplinary approach, using *operational research* we can sort out these issues very slickly and conceptually.

Queuing Theory of Management

The theory of queuing process is of considerable practical importance to meet the requirement of both patients and staff in an optimal way. It basically relates the rate of flow of patient, treatment time and waiting time of each patient. Knowledge of this aspect in a clinical practice is of great importance. It is more of significance for small dental clinics. The three main aspect of this system are;

(i) **Input Process:** It is simply a mathematical description of the way the patients arrive. The probability that a patient will arrive at the clinic at a given moment of time remains constant i.e. arrival at 9.10 a.m is equally likely as at 8.30 a.m. the average arrival rate is designated as 'A'.

ii) **Queue Disciplines:** It refers to the way in which a waiting line is formed, maintained and dealt with. The simplest arrangement is 'first come' 'first serve' rule new arrivals join at the end of the queue.

(iii) **Service Mechanism:** It deals with the output i.e. distribution of service time. It is designated as 'R'. The distribution is completely determined once the average service rate and average arrival rate of patient is known.

The ratio A/R should never be greater than one (1) otherwise patient will arrive faster than they can be accommodated. Studies states to place cases with low variability of consult duration in the beginning of the session. The rationale is not to snowball the waiting time. Typically, first-visit patients have a higher variation in consult duration than follow-up patients. Hence the guideline suggests placing the follow-up patients in the beginning of the session. Queuing process is of practical importance when there is acute shortage of clinical accommodation.

Appointment Management and Record Keeping

Providing dental care is a multi visit process. Very routinely in different fields of dental practice the treatment procedure goes on for 2-3 or more visits. Knowing the manpower in hand and the queue process of patients the better management of subsequent appointment is possible. This helps to deal with sudden excess or scarcity of patients, which is very critical with small budding clinics. There should be a proper maintenance of appointment records having a definite *proforma* for keeping the treatment details of each patient and expected recall visits. This *proforma* should be short and recognizable for easy management of multiple visits of multiple cases. With growing technology computer serves as a boon for this. It simplifies this job very efficiently. But to earn this facility we should first teach our manpower to operate the computer. They should be aware of handling and maintaining the soft data. Which ever the method may be, we have to expertise our manpower to manage such data for a smoother clinical practice.

Record is a scientific, clinical, administrative and legal document relating to patient care, in which is recorded sufficient data, written in sequence of events, to justify the diagnosis, treatment and results. It serves different purpose for different people:

The Patient:

- Document the clinical story of the patients' illness.
- Avoid omissions or repetition of treatment procedures.
- Assist in follow up care.
- As evidence in legal cases.
- Provide necessary information for insurance schemes.

The Dentist:

- Assurance of quality including adequacy of diagnostic measures.
- Assurance of continuity of dental health.
- Evaluation of dental practice.
- An aid in research and education.
- Teaching and publication purposes.
- A protection in case of legal complication

Check points for designing a good Record System:

- a. Record should be concise, but clear.
- b. Ease of access to users.
- c. Finding or location of data in the record should be easy.
- d. Up gradation should be done reliably so that most accurate and current date is available.
- e. Patient confidentiality must be maintained.

Behavior Management

We can amplify our managerial skills by learning the art managing the behavior. In a clinical practice we interact with people having variety of social, economical and emotional values. The art of understanding these values is behavior management. For better understanding we have to know about two important aspect of behavior management motivation and interpersonal communicational.

(i) **Motivation:** It may be defined as "the willingness to do work". Motivation influences peoples' behavior appreciably. The American motivation psychologist Abraham H. Maslow developed the Hierarchy of needs Theory which explains the complexity of human requirements Means of motivation differs from person to person.

It is the process that moves a person towards a goal. It is a process that starts with a physiological or psychological deficiency that activates behavior that is aimed at a goal or incentive. Motivation here implies for our coworker and radically for our patients. It is significant for an employee to do a job satisfactorily and thereby doing quality health care service. (Figure: 1) clearly justifies this significance.

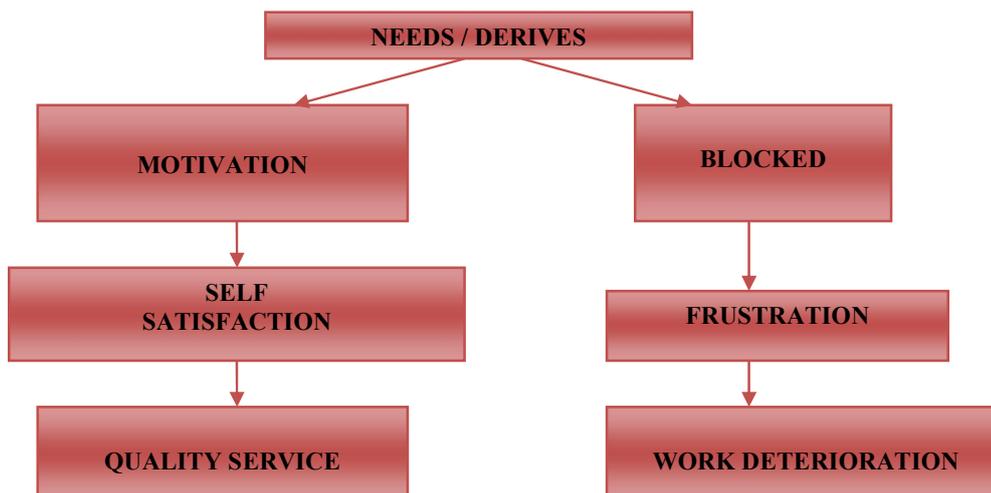


Figure-1. Structure of Employee Motivation

For employees or co-workers, it may be –

- Better working environment,
- Good incentives,
- Greater responsibility,
- More job autonomy,
- Opportunity for skill development, etc

For our patients, motivational means may be –

- Free check-up camps,
- Better treatment results,
- Role model,
- Posters,
- Pamphlets,
- Educational brochures or bulletins,

Knowledge of these motivational means will definitely be translated to an expertise for clinical practitioner by having a healthy and cooperative clinical staff and a stimulated patient.

(ii) **Inter-Personal Communication:** IPC is the face to face exchange of information, message, feelings, and knowledge. The quality of health care depends on the interactions between the patient and doctor. This is one of the most powerful and convincing approach to modify client behavior positively and to improve patient compliance. Through with effective IPC we learn whether patient understands treatment instructions or if they have questions and concerns. It also shows our patients that we respect them and are ready to listen to their problems and views. The use of specialized technical vocabulary, culture and language augment the relation between the service providers and the patients. This in turn improves patient satisfaction and patient compliance.

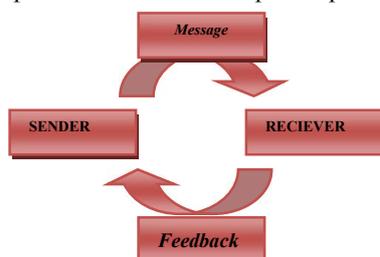


Figure-2. Cycle of Interpersonal Communication

For development of good Interpersonal Communication one should:

- Focus on manner of presentation,
- Focus on tone of voice and facial expression,
- Focus on the content,
- Focus on the affect,
- Use perception check (request for feedback).

Management for boosting clinical infrastructure

Equipment and Material Management:

In a dental practice we necessitate a variety of equipments, materials and supplies. These supplies have to be obtained at most economical rate in right quantity and quality, at right time, at right place for the right cost.

The basic principles of material management are:

- (i) **Effective management and supervision:** Good management practices and result oriented supervision must permeate the entire material management system. We should go for regular check of quality and quantity of material in stock.
- (ii) **Sound purchasing methods:** This accentuate the art and skill of ethical, hard poised negotiations.
- (iii) **Efficient purchase system:** To ensure the supply at right time and at right place.
- (iv) **Inventory control:** Inventory or stock should be small enough to replenish it regularly. We need to avoid bulk storage to avoid expiry of the stock, need for large storage place and also to prevent blocking of finance.

There are various methods of Inventory Control. They are as follows:

- (I) **ABC Analysis** – This technique is based on cost criteria. It states that,
 - Around 10 % of drugs/materials would consume 70% of our finances, known as ‘A’
 - Around 20% of drugs/materials would consume 20% of our finances, known as ‘B’
 - Around 70% of drugs/materials would consume 10% of our finances, known as ‘C’

So, to manage stocks following guidelines are available,

Table-1. ABC Analysis

‘A’ Items	‘B’ Items	‘C’ Items
Tight control	Moderate control	Ordinary control measures
Rigid estimates of requirements	Purchase based on rigid requirements	Purchase based on usage estimates
Strict and close watch	Reasonably strict watch and control	Control exercised by storekeeper
Safety stocks	Safety stocks moderate	Safety stocks high

Methodology for ABC Analysis

- i. Work out the annual consumption cost of each item/drug.
- ii. The list of drugs should be arranged in descending value of their cost
- iii. The cumulative cost of the items is worked out. The cumulative cost of first item will represent its annual cost whereas the cumulative cost of second item will be its annual cost plus the cumulative cost of the item above it. The cumulative cost of last item will be total annual expenditure on purchase of items.
- iv. The list is now ready for ABC Analysis. Mark the figure close to 70% of total expenditure. All items up to this figure will be ‘A’ category items. This will be equivalent to 10 % of total items.
- v. The next figure to mark will be close to 90% of total expenditure. These items will represent ‘B’ category and they are around 20% of the total items and cost us the 20% of expenditure.
- vi. The remaining items will be category ‘C’ which constitute around 65%-70% of items and cost as little as 10% of the budget.

(II) VED Analysis – This is based on the critical value and shortage cost of an item.

- ‘V’ stands for **vital** items and includes those items whose shortage cannot be tolerated e.g.- Inj. Adrenaline, Gloves etc. They should be available in sufficient quantity always.
- ‘E’ stands for **essential** items, whose shortage can be tolerated but just for short period only, e.g. -Amalgam, Xylocain vials etc. But if not available for long time will effect the patient care
- ‘D’ stands for **desirable** items, whose shortage will not adversely affect the patient care e.g.- Suction tubes etc.

While installing equipment we should look for latest model availability, space required and ease of expertise to operate. Moreover we have to look for requirement of additional manpower or to educate our technician.

(v) Guidelines for Equipment management:

1. Latest technology should be purchased.
2. Effective repair and maintenance facility exist with the supplier.
3. Possibility for future up gradation.
4. Operating cost of equipment is reasonable.
5. Purchase from standard reputed manufacturer.

Utility Service Management:

The importance of having clean sanitary and attractive clinical environment can not be understated. This aspect is of equal or says more of significance. The staff should be trained enough to ensure clean and hygienic surroundings. There should be an efficient housekeeping service to deal with issues of sanitation and disposal of waste.

Table-2. Job analysis for proper housekeeping

TASK	KNOWLEDGE	SKILL
<p>A. Sanitation 1. Supervise sanitation of clinic. Basic cleaning including – Dusting, Sweeping, Mopping, Polishing, washing.</p>	<ol style="list-style-type: none"> 1. Basic principle of sanitation peculiarity to clinic environment. 2. Basic principle of personal hygiene. 3. Basic knowledge of different detergents and disinfectants. 	<ol style="list-style-type: none"> 1. Supervise the cleaning operations of cleaners. 2. Check the preparation of different detergents.
<p>B. Odour Control 1. Identify and determine the type and source of unwanted odours in the clinic premises. 2. Ensure removal of bad odour.</p>	<ol style="list-style-type: none"> 1. Basic principle of ventilation, composition of air, airflow and temperature. 2. Removal and control techniques of different types of odours. 	<ol style="list-style-type: none"> 1. Identification of odours in the premises. 2. Supervise the preparation of different chemicals and solutions used for removal of odours.
<p>C. Waste Disposal 1. Supervise the waste handling i.e. collection, transportation and disposal.</p>	<ol style="list-style-type: none"> 1. Clinical waste <ul style="list-style-type: none"> • Source and generation of waste • Hazards to staff and community. 2. Principle of collection of different types of wastes and special precautions. 	<ol style="list-style-type: none"> 1. Identify the different source of waste. 2. Instruct the cleaners to use safety measures against hazards. 3. Make arrangement for labeling and segregation of pathological waste.
<p>D. Managerial Task 1. Plan, organize coordinate control and monitor all housekeeping activities for effective utilization of resources.</p>	<ol style="list-style-type: none"> 1. Principle of management and their application in housekeeping. 2. Supervise effective use. 	<ol style="list-style-type: none"> 1. Estimate and project the requirement of housekeeping. 2. Periodically assess and suggest improvement for better resource utilization.

Waste Management and Minimization:

We as a part of health manpower work force need to update ourselves about the latest knowledge of health care waste, its impact and the methods of its management so that the hazards associated with it can be reduced and eliminated. Waste minimization is the key to efficient waste management. Reduction of waste can be achieved by means of reuse, recycle and other programs. The potential benefits of waste minimization are environment protection, occupational safety and hospital economy (by means of reduction in cost expenditure towards health, waste treatment technologies etc.).

The various steps that can be adopted to minimize waste are:

- Reduction at source, by adopting good purchase procedures.
- Substituting biodegradable products in place of products that generate toxic hazardous wastes.
- Maintenance of optimum level of inventory to avoid disposal of expiry products.

- Consume oldest batch of products first.
- Checking expiry date of each product time to time.
- Purchase smaller quantity of unstable products.
- Preventing product wastage during treatment procedures.
- Practice of using reusable e.g. hand instruments, linen, wash bowls, personal protective glass, X-ray film holders, glass syringes, and bottles.
- Undamaged pressurized containers can be returned to original supplier for refilling.

Conclusion

This paper makes us realize that management functions are, by and large, transferable from one situation to the other with some variation in emphasis in certain areas. Dentistry is becoming a complex organization day by day. A dental practitioner has to be equipped with enormous clinical and managerial skills hand in hand to keep pace with the advancing world. Technological explosions, runaway cost, rising clientele expectations, government and social regulations and rising competitiveness are the main challenges for a dental professional. To deal with such situation, preparation is essential. This preparation can be achieved by formal or informal training in management principle and practices.

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