

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

Continuing Professional Development (CPD) has changed remarkably over the period of time because of aspirations of the community and professionals to ensure the continuing development of professional proficiencies. The field of health sciences is faced with explosion of latest information and advent of new technologies, thereby expanding the boundaries of professional development and training. The research in the field of Continuing Dental Education has added new dimensions to the need and delivery to these courses. It is imperative to understand the concepts of Adult Education to give the holistic overview to Continuing Professional Development for the dentists.

#### **2.1. Adult Learning**

Adult learning is sometimes considered as the separate entity from the learning in the childhood and the adolescence. Despite numbers of researches, books and articles published on this, we are still very far from the complete understanding of the Adult learning.

**Stephen Brookfield (1995)** discussed the different research areas on Adult Learning. Each area of these has its internal dynamics, but the interests and concerns of the researchers working on them overlapped frequently.

The first concept in Adult learning discussed by Brookfield is the **Self-directed learning**. Self-directed learning emphasize on the process wherein the adults take responsibility of their own learning, particularly by setting their individual goals for learning, find out the proper resources, choose the appropriate learning methods as well

as assess their own progress. But still some of the critical issues still remain in understanding the self-directed learning as a crucial model for adult learning.

The second concept discussed here is of **Critical Reflection**. The concept of developing the critical reflection as a distinctively adult form of learning has been a focus for many adult educators since long time.

Next concept discussed is of **Experiential Learning**. The experience is considered as a living textbook for the adult learner. It has been emphasized as an important concept in andragogy and widely followed in many countries. It involves the learning through doing and transformation of own experience into the knowledge.

The last concept discussed was of **Learning to Learn**. The capacity of the adults to ascertain how to learn - to become competent at learning in a variety of circumstances through distinctive ways and styles - was suggested as a predominant way for the educators working with the adults.

Brookfield also emphasized on the emerging trends in the field of adult education which are going to be of concern in the near future like the cross-cultural proportions in adult learning, engagement of the adults in theorizing practical, and the different methods that adults prefer for learning in education (distance learning, computer assisted education, open sources of learning) which all are the part of new technological developments.

**Maryam Shohoudi (2015)** evaluated the perspective of the University Students on the association of Teaching Competency with Self-Directed Learning and Academic Self-Efficacy amongst the English language students. The study was performed amongst the English language students who have cleared at least one semester. The data were

collected out of 159 students using three pre-validated standard questionnaires. The results showed that the efficiency of teaching, presentation of content, evaluation of learning and management skills for the class were better than average while the lesson planning and content skills control, both were at an average level. Likewise, all parameters of academic self-efficacy and self-directed learning were considerably higher than average. They concluded that the up-to-date skills and knowledge of a learner along with self-directed learning is vital for success in organizational learning. The efficient teaching of teachers motivated the self-directional learning and efficiency in students.

**María José Alonso et al.(2008)**, studied experience of the group of educators while carrying out in-service training. They analyzed the “chatting gatherings” as a novel methodological approach to support the knowledge construction and critical reflection as a part of basic adult education. This type of learning reveals a different approach of learning through dialogues. It was observed to have an impact on the improvement of educational practices in professionals. **Dunst et al. (2010)** undertook a study to find out the effectiveness of moderators of various methods and practices for evidence-based adult learning. Some of the practices that were found to be very effective in 58 randomized controlled studies on four methods of adult learning were studied to identify the conditions to achieve optimized learner outcomes. Thirteen different methods had significant effect on learner outcomes. The certain practices that actively involved learners in the process of knowledge or skills acquisition were the ones with positive learner benefits. The analysis also showed that optimal benefits in learning were achieved by using the combination of 4 to 5 different practices in small groups of less than 40 participants in the given settings when the module lasted for more than 20 hours, conducted on many occasions. Outcomes of this study for professional

development are explained taking into consideration various moderators of adult learning practices like number of learning practices, period of training, realistic settings and number of participants to achieve the optimal learner benefits.

**Muhammad Madi Bin Abdullah (2008)** also elaborated on different concepts of self-directed learning along with various theories and models concerning participation and non-participation of adults in self-directed learning programs. They concluded that most of the research on self-directed learning activity especially associated with effective E-learners shows that these adult learners are more attracted to this type of learning. They had some common characteristics like their self-motivation and self-discipline for pursuing further education, higher expectations, independent and active learners. They also possessed excellent organizational skills and were good time managers. They could easily adjust with the new learning environments. They, usually, were older and mature than the other learners and were more serious in their attitude towards their learning. They were ready to work in flexible schedules. Accordingly, they got a diverse set of assets and expectations to the learning process.

## **2.2. Continuing Professional Development**

Continuing professional development has become the integral part of each and every profession to ensure the continuing updation of professional skills and competencies.

**Aileen Kennedy (2005)** discussed different Continuing Professional Development models and analyzed the framework for the same. It was observed that a majority of literature related to CPD focused on specific aspects of CPD as well as there was scarcity of literature dealing with the comparative analysis of different models of CPD. Hence they had reviewed number of international literature based on which they had proposed a framework constructed using the key features of each model of CPD. They

identified nine major models that were divided depending on their capacity for supporting professional self-sufficiency. They were categorized as training, award-bearing, cascade, deficit, coaching/mentoring, standards-based, action research, community of practice and transformative. This article had also elaborated onto the settings and contexts where these models might be implemented. It also explained the specific model in context of the form of skill and knowledge that can be developed through it. It is suggested that the categories in which these models were broadly divided starting from transmission to transitional and finally to transformative leads to enhancing the capacity for professional autonomy.

Based on a model of Continuing Professional Development, a case study by **Mhozya et al** explored the experiences of the full-time in-service teachers' as adult learners in institutions of higher education in Botswana. These teachers were experienced serving or non-serving learners and were given a chance to join a full-time or part-time program. Mostly the institutions of higher education always faced the challenges to serve the younger as well as adult learners at the same time. Looking at the challenges faced by these institutions, there was a need to be transformative to create an environment that is responsive to the adult learners. The study obtained opinions of teachers of these adult learners as well as the education officers about their experience with these learners. The significant outcomes were the neglect of institutions toward the social needs of these adult learners, exposing learners to the impasse of either dropping out of the course or continue learning under stressful environment. They recommended the need for support systems to manage these challenges faced by the adult learners.

**Raichki et al. (2009)** reviewed the current understanding for professional capabilities & credentials along with CPD for profession of pharmacy to comprehend the complex problems and challenges encountered. This provided the platform for the interaction with various authorities directly or indirectly involved in this. They observed that the profession had evolved drastically in past few years. These all changes had evolved systematically and were accepted to promote qualitative change in the profession. Generally various professional authorities globally are entrusted to maintain the high standards of the profession through Continuing Professional Development to maintain the professional competencies and credentials. The constant evolution of regulatory atmosphere in various countries especially in health sector is going to shape the future progress in this field. They emphasized that the US model in this respect deserves special mention owing to their comprehensive and advanced approach with practical solutions.

The **Scottish Border Council** in **2002** gave the recommendations, guidelines and framework for the CPD. They suggested the need for the teachers to attend the CPD atleast once a year. The Professional Development program needs to equalize the personal, departmental, school as well as national priorities. The program should be linked with a simple, easily understandable and operational Professional Review & Development (PRD). They also suggested every secondary school to appoint a co-ordinator for CPD. Education Authority (E. A.) is formed by central CPD Management Group taken from schools for the quality assurance procedures development, to recommend the CPD activities that are commercially available; to share practices for management of various CPD issues and to oversee CPD funding. The funding should be divided amongst individual teachers, school and E.A.

### **2.3. Continuing Medical Education**

**Soghra Omrani et al. (2013)** did a study to recognize a proper model having cohesive instructional design for Continuing Professional development in Medical Education by comparing the electronic learning with the traditional method. This was a quasi-experimental study where two groups of 30 General Physicians and assistants from the Kermanshah University of Medical Sciences, Iran took part. First group was subjected to the traditional learning methodology while the second group learned by the e-learning and Macromedia flash CS5 software depending on the incorporation of design models that were instructional and motivational; incorporating slides and case studies on the etiopathogenesis, clinical diagnosis, and treatment of Acute Respiratory Failure. The pre-test, post-test as well as the physicians' motivation questionnaires were used to collect the information. It was observed that there was marked improvement in the post-test scores of the group subjected to the e-learning model. It was also suggested that motivational and instructional design to be used in future are the electronic Continuing Medical Education programs.

**Linda Casebeer et al.(2010)** assessed the efficiency of Continuing Medical Education using online tools in evidence-based decision making. They evaluated the effectiveness of the various online continuing medical education programs using the time tested case vignette-based surveys among the practicing physicians in US immediately after the program and also in a non-participant control group. They found the increased chances of around 48% among the physicians undergoing the online CMEs for making evidence based clinical decisions.

**Horst Christian Vollmar et al. (2009)** surveyed the preferences of German General Practitioners' for various forms of educational media to cater their CME requirements.

The 449 German physicians were communicated to take part in the survey during their quality circle meetings. The physicians participated were administered a standardized 26-item-questionnaire to survey their inclinations towards different practices in educational media. Mix crowds of 264 physicians with most of them aged around 50yrs were enrolled for study. The results demonstrated that General physicians were in favour of learning tools like *journals and periodicals, contemporaries, and quality circles*. They hardly used the newer tools like Internet for learning purpose, though its general use was quite higher. The important highlight of the study was of the finding the tool most *relevant for daily practice and dependable* which was the first choice for most of the participants. Despite increasing Internet use, it was seen that German physicians preferred the "classical/ traditional" methods for their learning. These results were very important while planning the comprehensive continuing professional development program.

Methicillin Resistant Staphylococcus aureus (MRSA) infections were more alarming in US than HIV/AIDS as it results in higher mortality as compared to the later. **Rodney E Rohde and Jovita Ross-Gordon (2012)** had done a qualitative study to understand the ways in which the people gain the new information and process it to adapt their behaviours based on this learning. The constructivist theory was used wherein the semi-structured face-to-face interactions and interviews through phones were conducted to assimilate the relevant data. This facilitated the participants to share their experiences to better understand this crucial health issue. Transcripts of the interviews were evaluated by grounded theory and sensitizing concepts. The results of this study were categorized in five specific areas to address the flaws that exist in translation of the knowledge and information from healthcare professionals to the common public. These areas include a common model for MRSA learning and adaptation; the self-directed



adult learning; the emphasis on overall MRSA information, care and prevention, and resistance to antimicrobials; the interrelated nature of adaptation; and, the requirement for a reliable systematic plan to deal with problem after diagnosis.

**Legare F et al.,(2011)** discussed the report of a meeting to deliberate on the ways of how to use the continuing professional development to promote the shared decision-making. Shared decision-making is very rarely used in medical setup. It is a collaborative method of interaction between the patients and practitioners to decide the healthcare. Hence the group joined together to prepare a roadmap for the research in Shared decision-making as a component of continuing professional development. The 36 Participants from different countries gathered to give their suggestions and share their experiences during training programs for shared decision-making. The agenda for the research proposed involved reaching a consensus at international level on shared decision-making abilities and creating a skeleton for accrediting continuing professional development programs in this field. They suggested the need for quality checks due to high variability in these programs.

**Alan M Batt and Niamh M Cummins (2016)** studied the influence of social media and online learning in education of the health professionals in Ireland that had usually shown a positive impact on medical and paramedical students. The reason was there were very few extensive research on the use of online learning and social media on healthcare professionals. The study was done on the Irish pre-hospital practitioners to explore the extent of the use of social media and online learning for continuous professional competency. They conducted a cross-sectional online survey of practitioners to collect both qualitative and quantitative data. A total of 248 participants completed the survey of which more than 78% were using their mobile during their

clinical duties and most of them were using the iOS device. Over 75% of respondents considered the social media and online learning as effective learning tools, and over 74% agreed for greater incorporation of this into prehospital education. The YouTube and Facebook were the most popular forms for these activities. The 88% respondents preferred the self-directed activities to constitute continuous professional development activity, but 64% felt that the programs with certificates awarding were better. More than 90% of participants had previously used the online learning, but only 42% of them had earlier purchased or paid for online learning. The results showed the acceptance of the social media and online learning for the continuing up-gradation purpose. The outcome of this research can be employed to guarantee that the educational interventions are rightly targeted at practitioners through the proper channels.

#### **2.4. Continuing Dental Education**

**Chan WC et al.(2006)** did an exercise to find-out the areas of interest as well as the means and modes of the study for Continuing Professional Dental education amongst general dental practitioners who attended the 26th Asia Pacific Dental Congress, 28 May—1 June 2004, Hong Kong. They randomly selected 381 general dentists from Hong Kong, Mainland China and other Asia-Pacific regions amongst the registered delegates. The face-to-face interviews were performed to collect the information for the survey by a set of dental practitioners from Hong Kong. They found out that the prosthodontics and orthodontics were very popular for pursuing the clinical degree, while the aesthetic dentistry and Implantology were preferred for continuing education. Many of the participating dentists preferred the part-time degree program to the full-time program.

**Elliot R. Shulman et al.(2011)** studied the effect of a continuing professional education on the knowledge and attitude regarding oral health in dental practitioners, hygienists and assistants in providing dental services to children and adolescents. They provided the free Continuing Education program to 92 general dental practitioners, 123 hygienists and 37 dental assistants at four different places across West Virginia. Participants submitted the pre- and post-test questionnaires on various concerned topics like fluorides, xylitol, Alternative Restorative Technique (ART). After 6 months they mailed the follow-up questionnaire to participants to gauge the outcomes. The Participants showed a significant increase in knowledge from the pre-test to the post-test. It is observed that the programs like these significantly increase the participants' comfort level and the knowledge while delivering the oral health care to infants and toddlers. However, this program failed to motivate most of the changes to their practice pattern to meet the national best practice guidelines.

**MS Hopcraft et al. (2008)** recognized that the Continuing Professional Development (CPD) to be an integral component of professional practice across almost all health discipline. They performed a cross-sectional survey to find out the involvement and attitudes of Victorian dental personnel to CPD activities using an anonymous, postal, self-administered questionnaire. Though the response rate was very low, nearly 90 per cent of respondents attended a professional development programs with the average attendance ranging from 8.3 to 36.9 hours. More than 50% of the dental surgeons attended more than 20 hours of CPD courses. Only one-quarter of respondents were against compulsory CPD as a prerequisite for registration.

## **2.5. American Dental Association Continuing Education Recognition Program**

The American Dental Association (ADA) has given the standards and procedures for the recognition of the Continuing Education Programs in 2012. The providers or the sponsors of the CPD programs have to fulfill the ADA CERP eligibility criteria and standards to get the recognition. The ADA CERP recognizes the providers of the CDE programs and not the individual programs. Various institutions and organizations have to submit the planned program of activities for at least 12 months to the ADA. The programs should have sound scientific basis along with good administrative and financial planning. They also have to ensure that the educational methods and the facilities used for CDEs should be appropriate to the stated objectives for the activities.

ADA CERP has also laid down certain standards and criteria. They recommended that the CDE program should be consistent with its goals and missions and relevant to the educational needs and interests. They emphasized that the providers must use the identifiable mechanisms to determine the current professional needs of the practitioners they want to cater to. These identified needs must go beyond the providers' perception of things. The process of the need assessment must be properly documented. The provider also has to state how the needs assessment is used to plan the professional development program. The members of the intended audience must be involved in assessment of their own educational interests.

They recommended that the Educational objectives should form the basis for evaluating the effectiveness of the learning activity. The provider has to develop a proper mechanism for the evaluation of accomplishment of the objectives, learning methods and the process as a whole. The provider should share a feedback collected from the participants with the instructor.

It was also recommended that the educational objectives, course content and the methods of imparting should be independent of the commercial interests. The improvement in the oral healthcare and not the specific drug, device or method should be the primary aim of the activity. The nature of the promotional activities should be clearly disclosed. The instructors must be the ones who are qualified by education and experience both. The number of instructors depends on the educational needs.

In this way ADA has laid down systematic guidelines and protocol for accreditation of the CPD programs. The ADA has also come with revised guidelines again in April 2016.

## **2.6. Scenario of CPD for Dental Practitioners**

The continuing dental education programs are conducted in India by various professional organizations, study groups, institutions and even by some individuals. Some of these programs are sponsored or supported by the private companies, while others run on self-financed or self-sustaining modes. If the provider of the course approaches the regulating council, they grant the credit points to these programs depending on the credit hours for which the program is conducted and after payment of the prescribed fees. There are also some of the online programs run by different organizations and recognized by council.

As oral health care providers every dental practitioner and dental institution have to render both curative and preventive care to the population. The rise in life expectancy also leads to increased responsibility for maintaining teeth longer and disease free. The dental surgeons need to be sensitized regarding the importance of upgrading themselves. It is the duty of every dental surgeon to render a suitable treatment to every patient and implement the same. There is an exponential growth of knowledge and

technology in every branch of dentistry. Hence it is important for the dental surgeons to develop an attitude for Life Long Learning. As per the guidelines of the Dental Council of India now, the CDE is obligatory for registration with the council. The Dental Council of India had also felt the need to sensitize each and every member of various State Dental Councils to the importance of continuing professional development. All registered Dental Surgeons would need to accomplish 100 verifiable points in 5 years (20 points of CDE per year). The CDE implementation would be valid for a period of 5 years for each dentist (up to the age of 65 years) and will be audited during the renewal of registration every year by the state dental council.

### **2.7. Need of the Study**

The dentistry all over the world is rapidly changing in terms of both quantitative and qualitative care. With the advent of the newer materials, instruments and techniques, it becomes necessary for practitioners to keep updated with the recent developments. The Continuing Professional Development plays an important role in this. The CPD in many of the Western countries is well designed and regulated. The American Dental Association lays down the detailed guidelines for CPDs and also updates the regulations regularly. The General Dental council of United Kingdom has legislated the CPD as mandatory to continue with the license to practice and has also laid down the detailed framework for this. In Indian scenario there are no such guidelines or the framework to regulate the ever important aspect of the Continuing Professional Development.

To-date there is no published data that specifically deals with the perceived needs of the Indian general dental practitioners for continuing professional development. Such data when available will facilitate efforts towards up gradation of skills and knowledge of the dental fraternity in India. The present study will contribute to understanding the

current state of affairs in the field of Continuing Dental Education and defining of the needs of Continuing Professional Development courses for general dental practitioners in Gujarat and by extension in India. This study will provide information on what a model program or framework for a new age dental technology should be. This research will provide a platform for formation of guidelines/recommendations for improvement in the CDP programs in Indian scenario, if required.

Reflecting on the personal needs and identifying strength and weaknesses in the practice can help the dental practitioners in selecting CPD activities that match their learning needs. The medical profession involves the expectations of the society, students, patients and professionals themselves. Our aim through this study is to address all such concerns for the greater benefit of the society as a whole.

We have communicated the supreme body for the regulation of dental profession in Gujarat to know the data available with them regarding the structured Professional development programs in the state. We have come to know that there is no need assessment done for the Professional development courses ever in the state and there are no structured curriculum or guidelines for the same.