Asian Pac. J. Health Sci., **2017; 4(3):20-27** **e-ISSN: 2349-0659, p-ISSN: 2350-0964**

Document heading **doi: 10.21276/apjhs.2017.4.3.5** **Research Article**

Oral Healthcare during Pregnancy: Sustenance of care and implications for future practice

N.Ranasinghe[*], U.S.Usgodaarachchi, R.D.F.C.Kanthi

[1]Senior Registrar in Community Dentistry, Health Education Bureau, Colombo
[2]Consultant in Community Dentistry, Institution of Oral Health, Maharagama
[3]Former Director, Health Education Bureau, Colombo

Received: 25-06-2017 / Revised: 8-07-2017 / Accepted: 08-08-2017

ABSTRACT

Introduction: An antenatal oral healthcare programme was introduced in Sri Lanka with the collaboration of existing Maternal and Child Health (MCH) programme in 2009. A discussion on sustenance of oral care in pregnancy will delineate the multiple and diverse factors that reflect the implications in future practice. **Objectives:** To describe the issues for sustainability of National Oral Healthcare Programme for Pregnant Mothers in the district of Gampaha **Methodology:** A qualitative study was carried out using the evaluation technique of participatory SWOT analysis. Two focus group discussions were conducted among Dental Surgeons and Medical Officers of Health (MOH) followed by two key informant interviews with the Regional Dental Surgeon and the Medical Officer - MCH care in the year 2014. The most common items identified were prioritized according to the preference of Dental Surgeons and MOHs in two separate public health forums. **Results:** The weaknesses pointed out by the professionals were; lack of emergency management facilities and over-crowded nature of some government dental clinics, lack of motivation among mothers and delayed appointments given in government dental clinics. The threats challenging the programme were Dental Surgeons' fear for the litigation issues, medically compromised mothers, myths run in families and risk of being treated by mal-practitioners. The strengths emerged were; team work of the staff, dissemination of practice guideline, benefits gained by mother and child, importance of early detection of oral disease, health education focused on oral health and service rendered by Mobile Dental Service. Several opportunities as suggested were; appointing Community Dental Surgeons to look after the antenatal oral healthcare, review the programme with experts, active involvement of mass media, inclusion of oral healthcare in to the basic curriculum of midwife and obtaining extra-support from private dental clinics. **Conclusion & Recommendation:** Supervision and monitoring of the programme should be further strengthened by carefully attending on the challenging areas.

Keywords: Pregnancy**,** Oral health

Introduction

'

Oral healthcare' was incorporated into the existing Maternal and Child Health programme in Sri Lanka in the year 2009 with clearly defined objectives, strategies and activities. The main objective is to improve the oral health of mothers and young children by providing comprehensive oral healthcare during the antenatal period.

**Correspondence*
N.Ranasinghe
Senior Registrar in Community Dentistry, Health Education Bureau, Colombo
E Mail: nirosandi1976@gmail.com

The programme is facilitated with well-prepared practice guidelines on oral healthcare during pregnancy giving separate recommendations for different categories of primary health care team. This document is a collaborative effort of Consultants in Community Dentistry & Community Medicine, Periodontology, Paediatric Dentistry, Obstetrics and Gynaecology and Paediatricians [1].The sustainability of the programme relates to how well the programme model can continue to operate overtime in to the future [2]. It is more appropriate to discuss the sustainability issues of the oral healthcare model for antenatal mothers from the perspective of the healthcare providers to identify the

strengths and weaknesses of the programme in detail, which will help to re-structure and properly organize the services provided to pregnant mothers. Amidst all the endeavors to propagate oral healthcare during pregnancy, it has been observed that there has been very poor utilization of oral healthcare services among antenatal mothers. The latest national review conducted by the Family Health Bureau indicates 36% and 41% oral screening coverage in Sri Lanka during the year 2012 and 2013 respectively [3]. A study done by Le et al in 2009 found two broad areas of barriers to dental care utilization from interviews conducted over the telephone with 51 expectant mothers [4]. The two areas of barriers identified were "stress" and "issues related to the dental care". According to the study findings, "stress" was caused by internal problems of the mothers like physical and emotional issues and external factors like financial concerns, relationship issues, employment and living condition. Issues related to the "Dental care" also included internal and external factors. Internal factors were "perception of dental experience, attitudes towards dentist, perceived value of oral health, and understanding the importance of oral health". External factors were "financial concerns, time constraints, logistics, and attitudes of the dentist and dental staff members towards clients". National Institute for Healthcare Management (NIHCM) in 2010 explained four factors as barriers to good perinatal oral health care [5]. They were the patient and counseling barriers, provider barriers, workforce barriers and financial barriers. Patient and counseling barriers appeared as one's cultural, demographic and socio-economic factors, experience of dental care during early life, mother's knowledge about importance of oral health and communicating oral health massages during pregnancy. In addition, physical effects of pregnancy such as nausea and vomiting which prevent an individual from routine oral care and increased food cravings for sweets are considered as patient barriers. Provider barriers included seldom addressing of oral healthcare in pregnancy through the curricular of medical and dental schools, negative attitudes among dental and medical practitioners about safety of provision of oral health care during pregnancy. Workforce barriers comprised of availability and accessibility of dental services. In USA "Dental Health Professionals Shortage Areas" (DHPSA) defined as an area with lesser than one dentist per 3000 population. Financial barriers included lack of public funding for dental services and limited dental insurance coverage during pregnancy. California Dental Association (CDA) also pointed out several patient, provider and system/structural barriers for provision of oral care during pregnancy. The system barriers include lack of available resources, restrictive policies, provider attitudes and lack of cultural competency among dental providers. The common patient barriers are lack of perceived need and knowledge about the importance of oral health, financial (including lack of dental insurance) factors, dental fear, lack of education, and limitations due to transportation, child care and work leave time issues [6].The low participation rates of dentists due to complicated paper work, low re-imbursement rates and payment delays was emerged as a major barrier to dental care for pregnant women in Medicaid dental programme [7]. Barriers reported by dentists following recent surveys, include insufficient compensation for time and costs to provide oral health counseling, concerns about safety of the procedures and legal risks associated with negative birth outcomes, and a lack of demand for perinatal oral health care [8-10].In 2011, Wetmore conducted a qualitative study to explore prenatal care providers' perceptions and attitudes about oral health during pregnancy [11]. Sixteen prenatal care providers were recruited to participate in face-to-face qualitative interviews and themes of "Perceptions of access to dental services during pregnancy, Patients' vulnerability, Time, Extent of oral health education, Apprehension towards dental services during pregnancy" emerged from the data. Most of the prenatal care providers had received little oral health training and reported that dentists are apprehensive to provide care to pregnant women.The barriers reported by Detman, Cottrell & Denis-Luque (2010), exploring the experiences of Florida women in obtaining dental care included "lack of insurance, difficulty in finding a dentist, low priority given to dental care, misconceptions about the safety and appropriateness of dental care during pregnancy, and sporadic anticipatory guidance during prenatal care" [12].

According to the recent report of USA on 'Best Practice Approaches for State and Community Oral Health Programs' in 2012, four barriers for access to perinatal oral health care were reported such as barriers of financing, work force preparedness, system integration/ coordination and referrals and woman's lack of knowledge, attitudes, and behaviors for good oral health during pregnancy' [13].

'Barrier of financing oral health care': Dental insurance coverage is limited than the medical insurance during perinatal period.

'Barrier for workforce preparedness': Non-inclusion of perinatal oral health care in dental school curricula, use of outdated guidelines, insufficient knowledge and a

lack of experience with perinatal oral health care may be reasons dentists feel uncomfortable when treating pregnant women 'Barrier for system integration/ coordination and referrals': Perinatal healthcare providers are frustrated trying to include oral health during perinatal health appointments when there is a lack of resources for making dental referrals, especially in the Dental Health Professional Shortage Areas (DHPSA) of USA. 'Woman's knowledge, attitudes, and behaviors regarding oral health during pregnancy': This may be influenced by culture, values, myths, socioeconomic constraints, system inadequacies or dental providers' behaviors and missed opportunities of mothers for receiving information and counseling

George A. et al (2012) reviewing all the studies exploring the knowledge, attitude, behavior and barriers faced by dental and medical professionals stated that there's no consensus exists among dentists and prenatal care practitioners on oral health care during pregnancy[14]. They further stated that many dentists are uncertain about the safety of dental care for pregnant women and hesitant in providing necessary care. Many general practitioners and midwives also not properly informed about its safety and importance. Even though the Obstetricians / Gynaeocologists are well informed on perinatal oral healthcare they rarely address it in their practices due to competing health demands and lack of training in this area.

Thus, there is a need of proper monitoring and evaluation of the programme and intensifying oral health promotion efforts towards antenatal mothers to overcome identified challenges and barriers in utilization of oral healthcare among the antenatal mothers. Moreover, SWOT analysis provides a framework for identifying the issues of sustenance of care that impact the strategic plan of the programme.

This study offers great opportunity to healthcare managers involved in the programme to reflect on their concerns with oral healthcare during pregnancy; to identify the essential components and functions of the programme; and to formulate recommendations for the modification of the programme and future planning. Therefore, this study itself is a successful intervention to sensitize all the responsible health care personnel as well as the target group of pregnant mothers on importance of oral health care during pregnancy.

Materials and Methods

The study was carried out using the evaluation technique of participatory SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) to determine programme achievements, internal problems of implementations, opportunities to improve programme performance and determine conditions that are likely to have negative effects to the programme implementation. Of the available qualitative research methods, focus group discussions (FGD) and key informant interviews (KII) were selected for the identification of SWOT items. This was done under four steps.

Step I – Identification of SWOT items by conducting FGDs among main service providers (Dental Surgeons and Medical Officers of Health)

According to Streiner & Norman (2008) in the guidelines for conducting FGDs, it was adequate to conduct two or three FGDs for the generation of items. Therefore, two FGDs were carried out in the present study as follows.

1. FGD I – Dental Surgeons in the district of Gampaha.
2. FGD II – Medical Officers of Health in the district of Gampaha.

Step II – Identification of SWOT items by conducting two key informant interviews with district level administrators of the programme

Two key informant interviews were planned to be carried out with the RDS and the MO – MCH in the district to obtain a larger view on perceptions of administrators.

Step III – Formation of a combined list of SWOT items by the Principal Investigator using the results of step I and step II

Two lists of SWOT items were prepared separately describing the perspectives of both dental staff (Dental Surgeons along with the RDS) and the MOH staff (Medical Officers of Health along with the MO-MCH).

Step IV – Prioritization of the identified SWOT items in the two lists according to the preference of Dental staff and MOH staff

Medical Officers of Health with more than one year of MOH experience were included in the study. Dental Surgeons those who had more than one-year work experience in a government dental clinic (HDC / ADC / CDC) were included in the study. RDS and MO-MCH were necessarily included in the study as district level key informants of the programme.

According to the available guidelines on FGDs, there should be six to twelve participants in a focus group discussion [15]. Therefore, two FGDs among DSS and MOOH were carried out including eight participants in each discussion. Medical Officers of Health and Dental Surgeons for FGDs were selected purposively on the basis of active involvement in the programme,

convenience, accessibility, and willingness to participate in the study.

A FGD guide and a KII guide were used to keep the participants focused on the research topic. They were prepared by the PI under the guidance of the supervisor. These interview guides helped the moderator to conduct the focus group discussions and key informant interviews. Two focus group discussions and two key informant interviews were held at RDHS office –Gampaha, after obtaining permission from the RDHS. The selected officers were informed and verbal consent of each participant was taken prior to conducting focus group discussions and key informant interviews.

A neutral setting and convenient dates accepted by the participants were selected to conduct the discussions and interviews with the aim of minimizing the disruptions. The setting was an indoor setting at RDHS office - Gampaha with well-lighted and well ventilated space. FGDs among Dental Surgeons and MOOH were conducted in two separate occasions at RDHS office.

The moderator's role was played by the PI. Two pre-intern doctors were employed by the PI as a note-taker and an observer. All the discussions were manually recorded by the note-taker. Prior to conducting FGDs and KIIs both of them were trained under a Consultant in the Health Education Bureau, Ministry of Health who had training experience in qualitative data collection methods for six months. PI was further exposed to a four-day comprehensive training workshop of 'Qualitative research for young social scientists' in Health Education Bureau conducted by Professor of Sociology, University of Kelaniya.

The purpose of the discussions and individual interviews were explained to the participants and they were informed to express their views in a free manner. Special arrangements were made to audiotape these discussions and interviews after obtaining prior consent from the participants. Discussion and interviews were concluded after the 'data saturation point' was attained. The two focus group discussions lasted for 45 minutes while each individual interview lasted for 30 minutes until the saturation point was reached. Refreshments were provided to all the participants contributed to the discussions and interviews.

Finally, the list of items originated from the discussions and key informant interviews were brought back to two separate forums of Dental Surgeons and Medical Officers of Health and the most common three items in the SWOT list was prioritized according to the preference of the majority of the participants. Medical Officers of Health were met at their monthly conference meeting and a participatory workshop was conducted for selected 25 Dental Surgeons of the district at the RDHS office – Gampaha to obtain their views.

To improve the quality of data both interviewer guides for FGDs and KIIs were pre-tested prior to use them in the field. PI was undergone a comprehensive training for conducting both FGDs and KIIs. PI refrained from asking leading questions and only the views of the participants were taken. The transcription quality of qualitative data was improved by using good quality recording equipments and it facilitated the comprehensive report writing before analysis.

Focus group discussions and Key informant interviews were analyzed based on the theories of qualitative methodology. The recorded focus group discussions and individual interviews were transformed into textual data by making a 'verbatim transcript' on the same day of the event. The notes taken by the note-taker was also added on to the text document. Manual procedures were used to analyze the contents from the focus group discussions and individual interviews.

During the process of analysis, the entire data set was coded using the inductive approach based on the 'Grounded theory' and the 'deductive strategies'[16-19]. At first all the 'descriptive responses' given by the participants scrutinized carefully and described them according to the participants' view. Then these 'descriptive codes' that seem to share common meaning were grouped together and created 'common themes'. Finally, based on the objectives of the study four 'over-arching themes' (strengths, weaknesses, opportunities and threats) were identified and the common themes were built upon these over-arching themes.

The 'Trustworthiness of data' was ascertained during data analysis through several procedures. Consistency of codes was tested by the repetition of the coding process by the PI through careful reference of the verbatim transcripts several times before assigning codes. Stake holder checks were done by comparing the codes emerged from two FGDs and two KIIs conducted among different stake holders. Independent coding was also carried out with the supervisor of the study who had prior experience in thematic analysis and compared and discussed the coding produced by both. Ethical approval for the study was granted by the

ethics review committee of the Faculty of Medicine, Colombo. Permission was obtained to conduct the study from RDHS, Gampaha

Results

The themes identified from the perspective of Dental Surgeons along with the RDS are presented in the SWOT diagram as follows. The first three items of the list were prioritized according to the preference of the participants.

S **Strengths:** **Team work and team spirit (1)** **Practice guideline and circular (2)** **Benefitfor mother and child (3)** Greater job satisfaction in Dental Surgeons Motivation among mothers Record based information system Health Education sessions focused on oral health Dental mobile service	**W** **Weaknesses:** **Lack of emergency care facilities in dental clinics (1)** **Overcrowded government dental clinics (2)** **Lack of motivation among mothers (3)** Limited time for health education in dental clinics Lack of in-service training to public health midwife Routine patients are dissatisfied Difficult access to maternity clinics by Dental Surgeons Underutilized Adolescent clinics Work stress among Dental Surgeons Lack of training for Dental Surgeons Delayed referral of mothers by maternity clinics Delayed attendance of mothers for dental screening Lack of strict clinical protocols Sterility issues when conducting outreach clinics Delayed sending of returns by Dental Surgeons
O **Opportunities** **Appointing Community Dental Surgeons (1)** **Review programmes with experts (2)** **Mass media involvement (3)** Production of Health Education materials Support from NGO's Dental Surgical Assistant as a designated post	**T** **Threats** **Fear of litigation issues by Dental Surgeons (1)** **Myths among mothers and their families (2)** **Some mothers are medically unfit (3)**

Fig 1:SWOT model illustrating the perspective of Dental Surgeons along with the RDS

The themes identified from the Perspective of Medical Officers of Health along with the MO-MCHare presented in the SWOT diagram as follows. The first three items of the list were prioritized according to the preference of the participants.

S **Strengths:** **Early detection of oral disease (1)** **Health education focused on Oral Health (2)** **Dental mobile service (3)** Record based information system Motivation among mothers Link with MCH care	W **Weaknesses:** **Limited access to govt. clinic (1)** **Lack ofmotivation among mothers (2)** **Delayed appointments by govt. dental clinics (3)** Gaps in delivery of care Multiple visits for treatment completion Lack of training to public health staff Lack of storage area to keep training materials.
O **Opportunities** **Appointing Community Dental Surgeons (1)** **Include oral health in the curriculum of midwife (2)** **Support from private dental clinics (3)** Dental screening for eligible women	T **Threats** **Myths run in families (1)** **Mothers presented with medical problems (2)** **Risk of being treated by mal practitioners (3)**

Fig 2: SWOT model illustrating the perspective of Medical Officers of Health along with the MO-MCH

Discussion

The present study provides encouraging results for the sustainability of the programme highlighting the strengths, weaknesses, opportunities and threats for the continuation and extending the services.The main issues that concerns majority of Dental Surgeons participated for the qualitative survey were lack of emergency management facilities in dental clinics, over-crowded government dental clinics, lack of motivation among mothers, fear of litigation issues by Dental Surgeons, myths and misconceptions among mothers and medically unfit pregnant patients (Figure 1). Similar issues were identified during the recent studies among dentists. They were the insufficient compensation for time and cost to provide oral health counseling, concerns about safety of the procedures and legal risks associated with negative birth outcomes, and a lack of demand for perinatal oral health care [8-10].In Medicaid dental programme the dentist perceived barriers were reported as "complicated paper work, low re-imbursement rates and payment delays" [7]. Several concerns of barriers for oral healthcare in pregnancy also emerged in a qualitative survey conducted among midwives in Sydney and they were compatible with the present findings. The barriers they pointed out were the lack of referral path ways, time constraints and lack of training for antenatal oral health care [20]. Further evidence similar to the present findings was also appeared in the recent report of USA on "Best Practice Approaches for State and Community Oral Health Programs" in 2012 [13]. They have mentioned inadequate workforce preparedness as a barrier for prenatal dental care and pointed out that insufficient knowledge and lack of experience with perinatal oral healthcare may be the reasons that dentists feel uncomfortable when treating pregnant women. The report further supported the current evidence of prevailing myths among families as a cultural barrier which directly influence the "Woman's knowledge, attitudes, and behaviors on oral healthcare during pregnancy".The main issues encountered by the majority of Medical Officers of Health participated in the qualitative survey were "limited access to govt. clinic, lack of motivation among mothers, delayed appointments by government dental clinics, myths run in families, mothers presented with medical problems and risk of being treated by mal-practitioners" (Figure: 2). Similar issues appeared in the study done by Wetmore (2011) to explore prenatal care providers'

perceptions about oral healthcare during pregnancy [11]. They were related to "problems of access to dental services, patients' vulnerability, time and apprehension of dentist to provide care during pregnancy". The experiences of Florida women as reported by Detman et al (2010) were also in consistent with present findings [12]. They mentioned about the issues of low priority given to dental care and misconceptions about the safety of dental care during pregnancy. It is suggested that further attention should be focused on the maternal oral health services and maximum efforts should be made to minimize the emerging issues. In addition more emphasis should be placed on inclusion of perinatal oral health care in to the initial training and future in-service training of all the dental and MCH care professionals. Sustainability was noteworthy by the items of strengths emerged from the SWOT analysis. The main strengths came out of the discussions of Dental Surgeons were team work & team spirit, dissemination of practice guideline and benefit for mother and child. The main strengths came out of the discussions of Medical Officers of Health were the early detection of oral disease, health education focused on oral health and the dental mobile service (Figure 1&2).The findings suggest several opportunities remained for the better perinatal oral health. The three main opportunities as suggested by the Dental Surgeons were appointing Community Dental Surgeons, review programmes with experts, mass media involvement. The three main opportunities as suggested by the Medical Officers of Health were appointing Community Dental Surgeons, inclusion of oral health in to the curriculum of midwife and support from private dental clinics. The findings from this study proved useful in further improvement of the oral health care programme for pregnant mothers at MOH level and wider national debate on such initiatives. In particular the data has been valuable in raising the credibility of the concept of "Perinatal oral healthcare" to those involved in funding, implementation and marketing of local and national programmes.

Acknowledgements

This study was self-funded. Many thanks to all the Dental Surgeons and Medical Officers of Health the Regional Dental Surgeon and the Medical Officer - MCH who took part in this study.The support given by the Health Education Bureau, Colombo, Sri Lanka is gratefully appreciated.

References

1. Ministry of Health. (2009). Practice guidelines, Oral healthcare during pregnancy. Family Health Bureau.Colombo: Ministry of Health.
2. Hollander,M. J., Miller, J.A., Kadlec, H. Evaluation of Healthcare Services: Asking the Right Questions to Develop New Policy and Program-Relevant Knowledge for Decision-Making.Healthcare Quarterly, 2010;13(4):40-47
3. Ministry of Health. (2013). Annual Health Bulletin 2013 Sri Lanka. Colombo:Medical statistics unit, Ministry of Health.
4. Le M., Riedy C., Weinstein P., &Milgrom P.An intergenerational approach to oral health promotion: Pregnancy and utilization of dental services. Journal of Dent Child, 2009;76(1):46-52.
5. National Institute for Health Care Management. (2010). Improving access to perinatal oral health care strategies and considerations for health plans. Washington: NIHCM Foundation.
6. California Dental Association (CDA) Foundation.(2010).Oral Health During Pregnancy and Early Childhood:Evidence-Based Guidelines for Health Professionals.Retrieved March 21, 2012 from http://www.cdafoundation.org
7. Buerlein, J., Peabody, H., Santaro, K. (2010). Improving access to perinatal oral health care: Strategies and considerations for health plans. National Institute for Health Care Management (NIHCM) Foundation, Issue brief July 2010. Retrieved September 2013, fromwww.NIHCM. ORG
8. Stafford, K.E., Shellhaas, C. & Hade, E.M. Provider and patient perceptions about dental care during pregnancy. Journal of Maternal-Fetal and Neonatal Medicine,2008; 21(1):63–71.
9. Huebner, C.E., Milgrom, P., Conrad, D., Lee, R.S. Providing dental care to pregnant patients: A survey of Oregon general dentists. Journal of American Dentistry Association, 2009;140(2): 211–222.
10. Da Costa, E.P., Lee, J.Y., Rozier, R.G., Zeldin, L. Dental care for pregnant women: An assessment of North Carolina general dentists. Journal of American Dental Association, 2010;141(13): 07-16
11. Wetmore, A.E.A.(2011). Master of Public Health in Behavioral science and health education. Faculty of the Rollins School of Public Health of Emroy University.

12. Detman, L.A., Cottrell, B.H, & Denis-Luque M.F. Exploring dental care misconceptions and barriers in pregnancy. Birth, 2010;37(4):318-324

13. Association of State and Territorial Dental Directors (ASTDD). (2012). Best practice approach: perinatal oral health. Retrieved from August 20, 2014, fromhttp://www.astdd.org.

14. George, A., Shamim S., Johnson M., Dahlen H., Ajwani S., Bhole S., Yeo A.E. How do dental and prenatal care practitioners perceive dental care during pregnancy? Current evidence and implications, Birth, 2012;39(3):238-247.

15. Streiner, D.L., Norman, G.R. (2008). Health measurement scales: A practical guide to their development and use. (4th Ed.) Oxford, UK: Oxford University Press.

16. Glasser, B., & Strauss, A. (1967). The Discovery of Grounded Theory: Strategies for Qualitative Research. New York: Aldine de Gruyter.

17. Glasser, B. (1978). Theoretical sensitivity: Advances in the Methodology of Grounded theory. Mill Valley, CA: Sociology Press.

18. Boyatzis, R.E. (1998). Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, CA: Sage

19. King, N., & Horrocks, C. (2010). Interviews in qualitative research. Thousand Oaks, CA:Sage

20. George, A., Johnson M., Duff M., Blinkhorn A., Ajwani S., Bhole S., Ellis S. (2010). Maintaining oral health during pregnancy: Perceptions of midwives in Southwest Sydney. Retrieved January 20, 2014, from http://dx.doi.org

Source of Support: Nil
Conflict of Interest: Nil