ABSTRACT

Introduction: Oral healthcare for antenatal mothers has been endorsed as the means to maintain optimal oral hygiene through a woman's life span. It improves the pregnancy outcomes and oral health of the infants and young children. In view of this, an antenatal oral healthcare programme was introduced in Sri Lanka with the collaboration of existing Maternal and Child Health (MCH) programme in 2009. Since its inception, it was monitored by MCH and Oral Health professionals to provide evidence based oral healthcare to all antenatal mothers. However, a timely evaluation of the programme is needed to strengthen the current oral health promotion efforts during pregnancy.

Objectives: To evaluate coverage, quality, effectiveness and sustainability of the National Oral Healthcare Programme for Pregnant Mothers in the district of Gampaha.

Methodology: A descriptive cross sectional study was conducted and information was gathered by previous records, field observations, questionnaires, interviews and clinical findings from various stake holders. The lot quality assurance sampling (LQAS) was applied to select representative samples from MCH clinics and dental clinics in the district and a subsample of clinic participants was selected to conduct a comprehensive evaluation.

The programme coverage was measured in terms of availability, accessibility and utilization of the services. The service availability was reported as dental clinic population ratio and Dental Surgeon population ratio. The accessibility was measured in terms of physical accessibility to both government and private dental clinics and the utilization was measured in terms of screening, treatment completion.

The quality of the programme was measured using three approaches of structure, process and outcome. The structure and process were assessed by "non-participatory observation" in MCH and dental clinics. The lot size was '20'and threshold applied was 'six' for the lot quality assessment. Twelve items in MCH clinics and 24in dental clinics were observed.

Patient outcomes were measured by knowledge, attitude and practices regarding oral healthcare in pregnancy among antenatal clinic attendees as well as estimating their

satisfaction on oral health care they received. The provider aspects were measured by the level of knowledge and attitude of care on oral healthcare during pregnancy among three categories of service providers, Medical Officers of Health (MOOH), Dental Surgeons (DSs), and Public Health Midwives (PHMM) using self-administered questionnaires.

The effectiveness was determined by the degree of achieving five objectives of the programme in minimizing the worsening of existing oral diseases and related complications during pregnancy, reducing adverse pregnancy outcomes, educating mothers on preventive measures for dental caries in young children and decreasing the possibility of early childhood caries (ECC) in the newborns. This was measured by comparing the desired outcomes between exposed and unexposed groups of mothers.

Finally, a SWOT analysis was conducted using qualitative inquiries to obtain a larger view on perceptions of the service providers and administrators regarding the sustenance of care.

Results: The number of registered pregnant mothers per government dental clinic was 1249 while the number of mothers per government Dental Surgeon was 916 in the year 2013. The service availability was satisfactory only in four MOH areas out of 15 in the district. The physical accessibility data revealed 67.5% of mothers resided within five kilometers from a government dental clinic, whereas it was 80% for the private dental clinic. The oral screening and treatment completion coverage found were 45% and 15% respectively.

Four MCH clinics and six dental clinics out of 20 from each were not satisfactory in quality of care. According to lot quality assessment of MCH clinics, seven items out of 12 were rated as "substandard": Availability of practice guideline (14 failed); Availability of oral health manual (11 failed); Orientation of Medical Officers (11 failed); Orientation for PHMM (10 failed); Timely referral (12 failed) and documentation of it (12 failed); Availability of health education materials (15 failed).

During lot quality assessment of dental clinics, 14 items out of 24 were rated as substandard: Display clinic days of mothers (15 failed); Availability of practice guideline (7 failed); Circular filed (15 failed); Developed liaisons between DS and MOH (10 failed); Minimum

one clinic session per week (8 failed); Screen and treat minimum 10 mothers per week (9 failed);Availability of health education materials(13 failed); Availability of mothers' register (8 failed), maintaining it in the relevant format (11 failed) and updated (9 failed);Availability of oral health record sheets for mothers (18 failed) and documentation in it (18 failed); Timely sending of returns(10 failed) and accuracy of them (11 failed).

Regarding outcome attributes of quality, the knowledge, attitude and practices on oral healthcare during pregnancy was significantly higher ($P<0.01$) among mothers those who were exposed to the programme (72.1%) than among un-exposed (30.9%). Among those who received care, 95% were satisfied with the care they received. Among the service providers, 84.3% of MOOH, 75.7% of DSs and 92% of PHMM had satisfactory knowledge & attitude of care on oral healthcare during pregnancy.

Of the five objectives evaluated for effectiveness, only the third objective: to reduce the possibility of adverse pregnancy outcomes, was not achieved. All others to reduce worsening of dental diseases and related complications ($P<0.01$), to improve awareness on preventive measures of ECC ($P<0.001$) and to decrease ECC ($P<0.01$) were successfully achieved with significance.

The main sustainability issues identified were lack of emergency care and overcrowding in government dental clinics, lack of motivation and myths prevailing among mothers, fear of litigation issues by DSs and medically compromised mothers.

Conclusion and recommendation: It seems that the oral healthcare programme is effective and benefited the mothers those who were exposed to it. However, there is an issue of low "coverage" of care in the district. The "quality" of the programme is "substandard" in certain aspects and there are emerging challenges for the sustainability of care. Present findings highlight the adequate oral health work force, infrastructure facilities and regular monitoring and evaluation of the programme at various stages is essential for its success and to ensure its effectiveness.

Key words: Evaluation, Pregnancy, Oral health