

## ABSTRACT

**Introduction:** Oral health denotes an important perspective of health for every woman and it affects their quality of life significantly. Oral health of women could be affected in different stages of their life cycle, mainly due to changes in levels of their reproductive hormones which could be modified by their oral hygiene status and oral health behaviors. Furthermore, maintaining better oral health during pregnancy is essential as it is cherished mile stone in a woman's life-cycle. Therefore, it is important to improve oral health of married women before they get pregnant, to achieve better oral health during their pregnancy. An oral health component was included in the Healthcare for Newly Wedded (HNW) programme which was implemented in Sri Lanka in 2011. Even though there is an oral health component in the current HNW programme, oral diseases are still a major public health problem among pregnant women in Sri Lanka. Regular oral health services utilization is a key element of better oral health. Therefore, it is important to identify gaps related to the oral health services utilization among pre-conceptive married women before their first pregnancy, in the existing oral health component of the HNW programme. Furthermore, it is important to develop an intervention which can address the identified gaps in the existing oral health component of the HNW programme to improve the utilization of the oral health services among pre-conceptive married women before their first pregnancy.

**Objectives:** To determine the effectiveness of an intervention to improve the utilization of oral health services in the existing Healthcare for Newly Wedded programme for pre-conceptive newly married women in Kalutara district.

**Methods:** There were three components in this study.

The component 1 was a community based descriptive cross sectional study to assess the oral health status, perceived oral health status, normative dental treatment needs, perceived dental treatment needs and utilization of oral health services among pre-conceptive married women before their first pregnancy in Kalutara district. An interviewer administered questionnaire and a clinical oral examination form were used to collect data among 820 of pre-conceptive married women before their first pregnancy in Kalutara district. Sample was obtained by two stage cluster sampling method.

In the second component, gaps in the existing oral health component of the HNW programme, related to the utilization of the oral health services among pre-conceptive married women before their first pregnancy, were identified. Gaps were identified as service related factors, provider related factors and consumer related factors through data extraction forms, descriptive cross sectional study among PHMM/SPHMM using a self-administered questionnaire, cross sectional analytical study among pre-conceptive married women before their first pregnancy using an interviewer administered questionnaire and an oral examination form, in-depth interviews among PHMM/SPHMM and pre-conceptive married women before their first pregnancy using in-depth interview guides and key informant interviews among MOOH, PHNSS, RDSS, MOO – MCH and DSS using key informant interview guides. The suggestions and inputs of the district level field staff, MOH level field staff, DSS and the target population to improve the utilization of oral health services among the pre-conceptive married women before their first pregnancy were identified.

Component 3 was a cluster randomized trial. An intervention was developed based on the results of the component 1 and 2. Eventually a cluster randomized trial was carried out to determine the effectiveness of this intervention developed by addressing the identified gaps in the existing oral health component of the HNW programme, to improve the utilization of oral health services among pre-conceptive married women before their first pregnancy in Kalutara district. Outcome evaluation and process evaluation were carried out to determine the effectiveness of the intervention.

**Results:** Of oral diseases the most prevalent conditions among pre-conceived newly married women before their first pregnancy comprised of dental caries (46.7% - untreated active dental caries), calculus (46.0%) and gingival bleeding (31.6%). Among them, 44.4% demonstrated perceived dental treatment needs whilst 77.6% had normative dental treatment needs. Moreover, among those who had perceived dental treatment needs, 38.5% attended dental clinics for treatments. Importantly, just 21.5% of the total sample had utilized oral health care services after marriage which seemed less than one fourth of the sample. In this context the most frequent reason for non-attendance was thinking that there was no need for treatment. Furthermore, the majority (97.1%) registered in eligible family register and 48.9% had participated in the HNW programme. Of those who participated in the HNW programme, 32.4% was referred to

a dental clinic by the MOH staff. Nevertheless, 53.1% of them had not attended a dental clinic thinking that it was not important as stated by 59.4% respondents.

Major gaps identified through the component 2 were unavailability of policy, circulars, guidelines, financial allocations, documentation method, data base, monitoring and evaluation method, review method, method of supervision by RDS or MOH, referral system and follow up plan for the oral health component of the HNW programme, lack of motivation among target women to seek oral care, deficiencies in conducting oral health lectures, target women were unaware of oral diseases screening, oral health component was not a priority in the HNW programme, MOH staff was not aware about the oral health component and there was no standard method to conduct it, deficiencies in the screening tool, lack of national level implementation, DSS were not aware about the programme and lack of coordination with the MOH staff and barriers among women to participate in the dental clinics.

The target accomplished by intervention for attending a dental clinic for oral diseases screening was 81.67% in IG and 34.2 % in CG. Outcome evaluation and the process evaluation of the intervention demonstrated the effectiveness of the intervention to improve the oral health services utilization and oral health related knowledge. It further showed its effectiveness to reduce oral diseases and normative dental treatment needs among the target group. Moreover, acceptability, effectiveness, appropriateness and feasibility of the intervention were satisfactory.

**Conclusion and recommendations:** Pre conceived newly married women carried a considerable burden of oral diseases dominated by untreated dental caries and periodontal conditions presented as calculus and gingival bleeding. Nevertheless, utilization of oral health services among those women prior to their first pregnancy remained at an unsatisfactory level. It could be due to several gaps in service related factors, provider related factors and consumer related factors in the oral health component of the HNW programme. Developed intervention based on this gap identification was effective to improve the oral health services utilization and oral health status among the target group which could be implemented throughout the country in the future. Furthermore, national level involvement and improved administrative aspects would yield better results.

**Key words:** pre-conceptive married women before their first pregnancy, utilization of oral health services, gaps in public health programmes