# Impact of short term intervention on mother knowledge, attitude and practice to improve oral hygiene of their children aged(4-7) Years Old in Al-Shaab Area - Baghdad City

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ABSTRACT

**Background**: Mothers are considered as the key role in effect on child's dental behavior. So it is important to involve her in oral health promotion program to prevent early childhood dental caries from occurring in early age.

**Objectives:** To identify the knowledge, practice and attitude of mothers about the oral health of their children. And to measure the change in oral hygiene of children aged (4-7) years old after one month of interventional program on their mothers.

**Type of study:** Non-randomized interventional.

**Methods:** Non-randomized interventional study for one month in Al Shaab area in Baghdad to 65 mothers who have children aged (4-7) years .A modified administrated questionnaire is given to assess mothers' knowledge, practice and attitude about their children's oral hygiene. Loe and Silness index is used to measure the oral hygiene of their children through measure highly associated with oral hygiene of the children.

**Results:** The study found the mothers level of education is not associated with their child's oral health behavior about brushing times and thumb sucking habit but it is highly associated with fluoride supplement for their children also mothers level of education and their attitude about fearing from dental treatment are not associated but are associated with their attitude about child's tooth pain.

**Conclusion**: Improvement in oral hygiene of children after one month from receiving their mothers a short term oral hygiene program.

**Key words**: knowledge, practice, attitude, oral hygiene, plaque, oral health promotion.

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Dental caries and periodontal diseases are the most common oral health problems, which effect all ages [1] [2]. These two diseases are still a major public health problem in developed countries, and the burden of oral disease is growing in many developing countries[3], and have a significant impact on the social and psychological aspects of an individual's life.[4]. Childhood, especially in the pre-school aged, is a crucial time to learn oral hygiene behaviors. If oral hygiene skills has been obtained and sustained in early childhood, these skills can become an affirmed oral habits and are less susceptible to change.[5] Administrated questionnaire is given to assess mothers' knowledge, practice and attitude about their children's oral hygiene. Loe and Silness index is used to measure the oral hygiene of Children's oral health is affected by their parents' dental health habits. Therefore, oral health promotional programs are needed as preventive action to provide children not only with convenient oral health, but also a better quality of life. [6]

**Method.** The study design is an interventional study design that for short term intervention lasted for one month. The study is carried out from May to September 2015. The sample size is 72 mothers who have children aged from (4-7) years old. Only 65 of them have completed the follow up and interventional program at al-Shaab area in Baghdad. Seven of the mothers have withdrawn from study for private excuses the type of sample is non randomized. The questionnaire used for data collection in this study on mother's knowledge, attitude and practice about the oral health and- questions about the child's diet and nutrition Then Clinical Oral examination that is done by practitioner dentist .we assessed the oral cleanliness by using plaque and. gingival index (Silness and Loe, 1964) before interventional program then mothers received session consists of a lecture for 15 mints, where overhead projection

is used in it, contains information about the oral hygiene and health nutrition After that practical lecture which continued for 5 mints , mothers are shown the right way to tooth brushing and dental flosses and at the end, illustrative dental folders have been distributed among them. The folder contains information on the dental health and the right way for doing teeth brushing and dental flosses, in addition to good and healthy nutrition and notes on the importance of fluoride for children. After two weeks, mothers would receive another brief session about the oral hygiene. After one month from receiving the first session about the oral hygiene, a measuring to the plague, gingival indices of the children would be done by the same practitioner Dentist. Data description, analysis and presentation were performed using two computer software programs as they Statistical Package .for Social Sciences (SPSS version 18) and Microsoft Office Excel 2007). Marginal significant at P=0.05

**Result**. The sample is distributed according different: Mothers knowledge about children's oral health, causes of dental caries, primary teeth loss and fluoride benefit are highly associated with their level of education but in the study found the mothers level of education is not associated with their child's oral health behavior about brushing times and thumb sucking habit but it is highly associated with fluoride supplement for their children also mothers level of education and their attitude about fearing from dental treatment are not associated but are associated with their attitude about child's tooth pain. Oral hygiene of the children improved after their mothers received interventional program about the oral hygiene and this improvement is highly associated with mothers and child's variables which are taking through the study.

**Table 1**: Distribution of the sample according mothers and child's parameters

| Studied parameters | | NO. | % |
|---|---|---|---|
| Mother Education | Primary | 18 | 27.7 |
| | Secondary | 21 | 32.3 |
| | College | 18 | 27.7 |
| | Institute | 8 | 12.3 |
| | Total | 65 | 100.0 |
| Mother Age | <=30 | 30 | 46.2 |
| | >30 | 35 | 53.8 |
| | Total | 65 | 100.0 |
| Mother occupation | housewife | 42 | 64.6 |
| | employee | 23 | 35.4 |
| | Total | 65 | 100.0 |
| Child Age | 4th and 5th | 30 | 46.2 |
| | 6th and 7th | 35 | 53.8 |
| | Total | 65 | 100.0 |
| Child's gender | Males | 33 | 50.8 |
| | Females | 32 | 49.2 |
| | Total | 65 | 100.0 |
| No. of residents in the house | 1-5 | 44 | 67.7 |
| | 6-10 | 21 | 32.3 |
| | Total | 65 | 100.0 |
| Child's sequence NO. | 1st or 2nd | 34 | 52.3 |
| | 3rd-6th | 31 | 47.7 |
| | Total | 65 | 100.0 |

| Index1 | Mother | | MEAN | NO | ±SD | SE | Paired t-test | df | Sig. |
|---|---|---|---|---|---|---|---|---|---|
| Education | Primary | PLI1 | 1.59 | 18 | 0.40 | 0.09 | | | |
| | | PLI2 | 1.25 | 18 | 0.44 | 0.10 | 6.68 | 17 | 0.00 |
| | Secondary | PLI1 | 1.20 | 21 | 0.33 | 0.07 | | | |
| | | PLI2 | 0.75 | 21 | 0.44 | 0.10 | 9.53 | 20 | 0.00 |
| | College | PLI1 | 1.32 | 18 | 0.39 | 0.09 | | | |
| | | PLI2 | 0.76 | 18 | 0.34 | 0.08 | 11.73 | 17 | 0.00 |
| | Institute level | PLI1 | 1.31 | 8 | 0.36 | 0.13 | | | |
| | | PLI2 | 0.86 | 8 | 0.38 | 0.13 | 6.17 | 7 | 0.00 |
| Age (Year) | <=30 | PLI1 | 1.32 | 30 | 0.39 | 0.07 | | | |
| | | PLI2 | 0.85 | 30 | 0.47 | 0.09 | 12.09 | 29 | 0.00 |
| | >30 | PLI1 | 1.39 | 35 | 0.39 | 0.07 | | | |
| | | PLI2 | 0.95 | 35 | 0.44 | 0.07 | 11.006 | 34 | 0.000 |
| occupation | H. wife | PLI1 | 1.39 | 42 | 0.39 | 0.06 | | | |
| | | PLI2 | 0.98 | 42 | 0.47 | 0.07 | 11.79 | 41 | 0.00 |
| | Employee | PLI1 | 1.29 | 23 | 0.40 | 0.08 | | | |
| | | PLI2 | 0.77 | 23 | 0.39 | 0.08 | 12.43 | 22 | 0.000 |

**Table 2:change in plaque index according to the mothers**

PI1: children's plaque index measured before interventional program

PI2: children's plaque index measured after one month from receiving their mothers' oral hygiene program

| Index1 | CHILD | | MEAN | NO | ±SD | SE | Paired t-test | df | Sig. |
|---|---|---|---|---|---|---|---|---|---|
| Age | 4-5 | PLI1 | 1.34 | 30 | 0.41 | 0.08 | | | |
| | | PLI2 | 0.85 | 30 | 0.44 | 0.08 | 14.34 | 29 | 0.000 |
| | 6-7 | PLI1 | 1.37 | 35 | 0.38 | 0.06 | | | |
| | | PLI2 | 0.95 | 35 | 0.47 | 0.08 | 9.96 | 34 | 0.000 |
| Gender | Males | PLI1 | 1.40 | 33 | 0.38 | 0.07 | | | |
| | | PLI2 | 0.97 | 33 | 0.43 | 0.07 | 9.95 | 32 | 0.000 |
| | Females | PLI1 | 1.31 | 32 | 0.40 | 0.07 | | | |
| | | PLI2 | 0.93 | 32 | 0.47 | 0.08 | 13.65 | 31 | 0.000 |
| N. of res. | 1-5 | PLI1 | 1.28 | 44 | 0.36 | 0.05 | | | |
| | | PLI2 | 0.81 | 44 | 0.44 | 0.07 | 13.49 | 43 | 0.000 |
| | 6-10 | PLI1 | 1.51 | 21 | 0.42 | 0.09 | | | |
| | | PLI2 | 1.10 | 21 | 0.42 | 0.09 | 9.17 | 20 | 0.000 |
| sequen.No. | 1st or 2nd | PLI1 | 1.24 | 34 | 0.36 | 0.06 | | | |
| | | PLI2 | 0.79 | 34 | 0.44 | 0.08 | 11.71 | 33 | 0.000 |
| | 3rd-6th | PLI1 | 1.48 | 31 | 0.39 | 0.07 | | | |
| | | PLI2 | 1.03 | 31 | 0.44 | 0.08 | 11.14 | 30 | 0.000 |

**Table 3: change in plaque index according to the child's parameters**

**Discussion**: Children's health behavior is influenced by their parents' knowledge and beliefs, which affect oral hygiene and healthy eating habits [(7)] . The study found there is a highly significant association between knowledge of mothers about the importance of preventive action of the fluoride and mothers' education. These results may be supported by other studies, which show there was a significant association between mothers' level of education and their knowledge about preventive dentistry methods. [(8)(9).] These may be because mothers with high level of education could obtain and evaluate more information and these mothers may understand the information correctly. The result of present study indicates that children's oral hygiene was improved after the one-month interventional program The oral hygiene procedures are described as one of the greatest methods designed to remove bacterial plaque.[(10)]oral hygiene is a paramount requirement for any oral health related behavior and practice. [(11)] . These results agree with other studies show improvement occurred in the oral hygiene after one month from oral health educational program. [(12)(13)(14).] Mothers' age is a high significant associated with child's oral hygiene. Younger mothers have slightly more effect on children's dental behavior than older mothers these results

may interpret the result of others which consider maternal age as a factor influencing the pre-school child's caries status and it was observed that the children of older mothers had more carious lesions than children of younger mothers [15]. Employee mothers show change in plaque mean index more than house wife mothers. These results may be interpreted mostly of the employee mothers are from college and institute study level of education and these mothers have more dental knowledge about the dental care than other level of education. Furthermore, the employee mothers may more reach to technology than housewives mothers and show the report and studies about the dental care and this knowledge is supported by dental health session who participated in our study made them more useful than others housewives mothers. That the learning begins at home and mothers as the first and best teacher [5]. All children in the study show a reduction in plaque index and improvement in oral hygiene. These may be reflecting mothers positively effect on dental behavior of these age group of children.

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