

# SAUDI MOTHERS KNOWLEDGE REGARDING THE TEETHING PROCESS IN THEIR CHILDREN

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## ABSTRACT

**Introduction:** Several other symptoms may also be present when children are teething. They include drooling, swollen gums, rhinorrhea, and loss of appetite. These symptoms can be treated by using several methods, which include gingival massage and comforting bottles.

**Materials and methods:** We used a closed-ended questionnaire, which was constructed online using Google forms. The survey was sent out using emails, social media websites, etc. We used a convenient sampling technique targeting mothers having at least one child under the age of 2 years.

**Results:** We found statistically significant comparisons when inquired about smoking-related to painful teething in babies and teething causing ear infection, in both cases the mothers having 5 or more children had higher responses.

**Conclusion:** Mothers having more experience with children showed slightly better awareness of the overall information and management of teeth process.

**Key words:** Saudi mother, teething, knowledge.

## Introduction

Teething is referred to as the eruption of teeth in babies. It is associated with symptoms that are present in the majority of the children <sup>1-4</sup>. The usual time of eruption for the first tooth is six months. Several signs and symptoms related to teething include pain, inflammation, sleep disturbance, and bowel upset <sup>5</sup>. Several investigations have taken place to determine the symptoms related to teething and their possible causes. It was interesting to know that tobacco smoking during pregnancy is strongly associated with pain during teething among children. However, the same study revealed that vitamin deficiency in mothers is also linked with the above-mentioned symptom in their infants <sup>6</sup>.

Furthermore, several other symptoms may also be present when children are teething. They include drooling, swollen gums, rhinorrhea, and loss of appetite. These symptoms can be treated by using several methods, which include gingival massage and comforting bottles <sup>7</sup>. Mothers' attitude towards this issue has been linked with their educational levels as well. A study in Africa focused on the famous myth that discharge in infants was due to teething. However, this information is not true <sup>8</sup>.

Apart from the methods mentioned above, various other treatments have been witnessed over decades to provide

relief from pain caused due to teething. Mothers have been using gels (must be used with caution) and homeopathic medications for this purpose. However, certain tablets including belladonna which are available without prescriptions in pharmacies have shown unwanted effects in these children <sup>9</sup>. Another investigation conducted in Germany supported the use of homeopathic medications in the provision of pain relief in children. In this case, the use of ChamBell-5-02 tablets proved to be effective against the discomfort of the infants <sup>10</sup>.

A study done among Sudanese mothers revealed a relatively weaker knowledge regarding the teething process and its management. It was noted that the mothers had common misconceptions and myths regarding the teeth process among their children and they required more education to manage this issue efficiently <sup>11</sup>. Another investigation revealed common myths among Nigerian mothers, where they believed that the medical symptoms occurred due to teething only. There is a misconception that fever and diarrheas are associated with the teeth process; which is not true. This is quite a dangerous belief as they may not look for other possible causes of symptoms such as fever and diarrhea, hence not providing the child with appropriate treatment <sup>12</sup>.

The levels of knowledge and awareness of parents especially mothers have been varying based on experience, the number of children, and geographical location. A study done in Jazan, Saudi Arabia aimed to assess the mothers' knowledge of teething. Results revealed that the current knowledge was poor among the study participants, which was associated with their attempts to relieve pain which did not work <sup>13</sup>. Another research conducted in Nigeria demonstrated the association of mothers' awareness of symptoms related to teething. It was observed that the overall knowledge of those mothers was satisfactory. It was interesting to know that they had used different types of remedies to provide relief to their babies. These remedies included teething syrup, teething powder, traditional herbs, and a mixture of all as well <sup>14</sup>.

A study done in Taif, Saudi Arabia investigated the knowledge of Saudi parents towards the teething process among their children. It was revealed that only 19% of the study participants could answer the knowledge-related questions correctly, which depicts a clear need of improving the knowledge of these parents <sup>15</sup>.

#### **Aims of the study:**

- To determine the level of mothers' knowledge regarding teething.
- To compare mothers' knowledge based on the number of children.

#### **Materials and methods:**

Our sole target population for this study was Saudi mothers. We aimed to cover 1000 participants in Riyadh city; however, we received 848 surveys back. We used a closed-ended questionnaire, which was constructed online using Google forms. The survey was sent out using emails, social media websites, etc. We used a convenient sampling technique targeting mothers having at least one child under the age of 2 years.

#### **Measuring Instrument:**

The survey used in this study included questions related to the demographics (age of mother as well as children, educational level, number of children, cigarette smoking, socioeconomic status) and followed by teething related points, which included the time of teeth eruption, symptoms associated with teething, remedies used by the mothers, possible treatment choices, etc. The responses were categorical, hence frequencies were measured.

#### **Statistical Analysis:**

Collected data were analyzed and tabulated using Statistical Package for Social Sciences (SPSS) version 16. Frequencies were calculated and comparisons were made using the Chi-square test with the value of significance kept under 0.05.

#### **Results:**

We received a total of 848 surveys back, out of which, 37% belonged to 18-30 years, 47% to 31-45 years, 13% to 46-60 years, and merely 2% to 60+ age group (Figure 1). On the other hand, as far as the educational levels of participants were concerned, 5% had primary school education, 31% had a high school, 62% had a university education and 2% were uneducated (Figure 2). We also divided the respondents based on the number of children. 20% of mothers had 1 child, 53% had 2-4 children and 27% had 5 or more children (Figure 3).

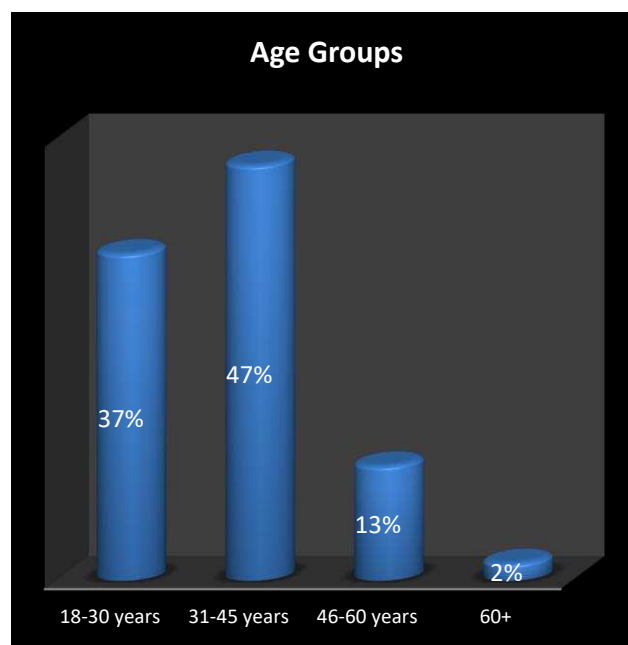


Figure 1: Age group distribution of the study participants

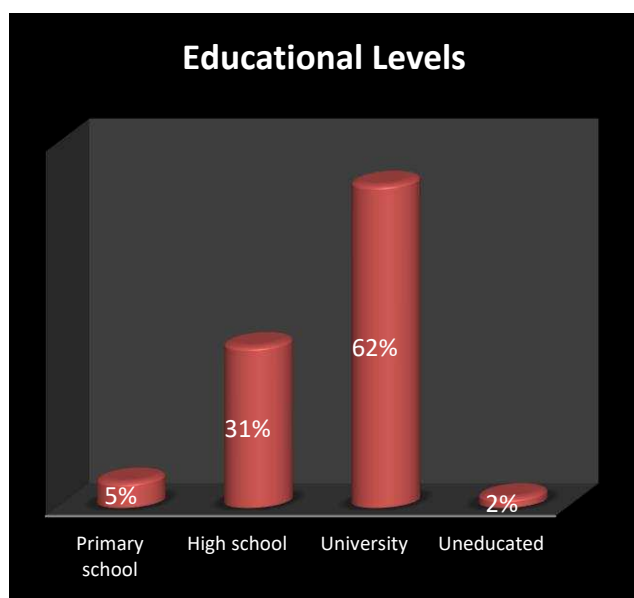


Figure 2: Educational levels of the study participants

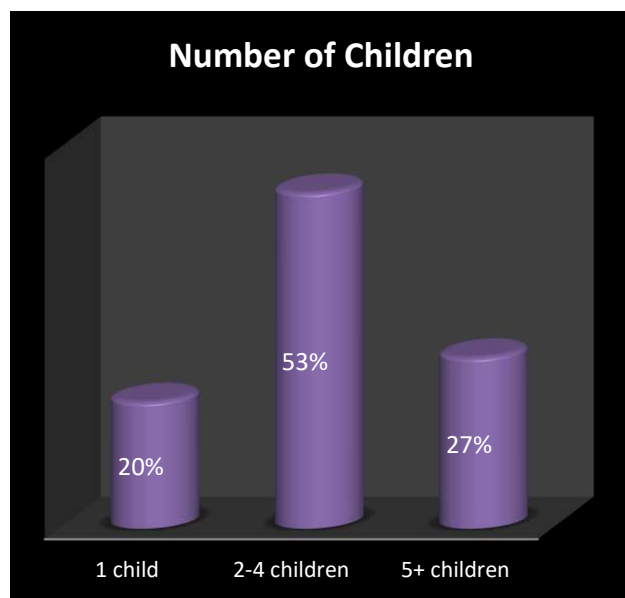


Figure 3: Participants' distribution based on the number of children

We decided to compare the findings based on the number of children (Table 1), which also depicted the experience of mothers towards the management of the teething process. It was noted that mothers having 5 or more children had breastfed their children more as compared to mothers having only 1 child. This difference was statistically significant. However, when inquired about teething having any medical symptoms, all respondents showed similar responses which averaged at 95% to agree. As far as the symptoms associated with teething were concerned, fever, gum irritation, drooling, appetite loss, and sleep disorder were answered by all mothers in a statistically insignificant number. Whereas, diarrhea and weight loss were comparable among the groups as mothers having 5 or more children voted towards diarrhea more than the other groups, and mothers having 1 child opted for weight loss which was higher than the remaining groups. These comparisons were statistically significant. Fever and diarrhea are not associated with the teething process hence they were considered to be the incorrect options in the survey.

There were no statistically significant comparisons when inquired about symptoms increasing or decreasing with more teething, vitamin D deficiency and its involvement with the increase of symptoms, knowledge about the number of teeth in primary dentition, presence of neonatal tooth, the neonatal tooth being included in primary dentition, breastfeeding during sleep affecting teething process and finally if their children had any allergies. On the other hand, we found statistically significant comparisons when inquired about smoking-related to painful teething in babies and teething causing ear infection, in both cases the mothers having 5 or more children had higher responses. Mothers with 1 child believed that using lollipops and frozen vegetables may provide relief to painful teething.

Item	1 child	2-4 children	5+ children	Total	P-value
Type of feeding?	Breastfeeding: 58% Bottle feeding: 42%	Breastfeeding: 66% Bottle feeding: 34%	Breastfeeding: 74% Bottle feeding: 26%	67% 33%	0.005
Does teething have medical symptoms?	Yes: 97% No: 3%	Yes: 94% No: 6%	Yes: 93% No: 7%	95% 5%	0.185
Symptoms associated with teeth:	Fever: 75% Gum Irritation: 40% Drooling: 50% Diarrhea: 60%	Fever: 77% Gum Irritation: 43% Drooling: 55% Diarrhea: 68%	Fever: 73% Gum Irritation: 46% Drooling: 49% Diarrhea: 72%	73% 41% 51%	0.237 0.287 0.393

	Weight loss: 31% Appetite loss: 40% Sleep disorder: 36%	Weight loss: 24% Appetite loss: 32% Sleep disorder: 31%	Weight loss: 28% Appetite loss: 36% Sleep disorder: 35%	65% 26% 33% 32%	0.033 0.035 0.099 0.138
Symptoms increase or decrease with more teething?	Yes: 50% No: 50%	Yes: 42% No: 58%	Yes: 49% No: 51%	45% 55%	0.079
Does Vitamin D deficiency increase the medical symptoms of teething?	Yes: 46% No: 54%	Yes: 51% No: 49%	Yes: 54% No: 46%	51% 49%	0.303
Smoking during pregnancy aggravates these symptoms?	Yes: 51% No: 49%	Yes: 49% No: 51%	Yes: 62% No: 38%	53% 47%	0.006
Teething may cause ear infection?	Yes: 58% No: 42%	Yes: 46% No: 54%	Yes: 60% No: 40%	52% 48%	0.001
Age of child when the first tooth appeared?	3-5 months: 10% 6-9 months: 75% 12-14 months: 15%	3-5 months: 9% 6-9 months: 75% 12-14 months: 16%	3-5 months: 15% 6-9 months: 69% 12-14 months: 16%	11% 73% 16%	0.181
The best way of pain relief?	Lollipop, Frozen vegetables: 88% Use of medicine: 12%	Lollipop, Frozen vegetables: 78% Use of medicine: 22%	Lollipop, Frozen vegetables: 70% Use of medicine: 26%	77% 23%	0.001
How many primary teeth there are?	14 teeth: 58% 20 teeth: 33% 24 teeth: 10%	14 teeth: 56% 20 teeth: 35% 24 teeth: 9%	14 teeth: 52% 20 teeth: 37% 24 teeth: 11%	55% 35% 10%	0.817
A child can be born with a tooth present?	Yes: 56% No: 44%	Yes: 53% No: 47%	Yes: 48% No: 52%	52% 48%	0.240
This tooth is included in primary dentition?	Yes: 52% No: 48%	Yes: 56% No: 44%	Yes: 59% No: 41%	56% 44%	0.439
At what age, a child begins losing primary teeth?	4-5 yrs: 25% 6-7 yrs: 66% 8-9 yrs: 9%	4-5 yrs: 11% 6-7 yrs: 71% 8-9 yrs: 19%	4-5 yrs: 12% 6-7 yrs: 72% 8-9 yrs: 16%	13% 71% 16%	0.002
Does lollipop relieve the teething pain?	Yes: 89% No: 11%	Yes: 80% No: 20%	Yes: 85% No: 15%	83% 17%	0.029
Adding honey or jam to milk reduces pain?	Yes: 8% No: 92%	Yes: 4% No: 96%	Yes: 8% No: 92%	6% 94%	0.038
Breastfeeding during sleep affects teething?	Yes: 69% No: 31%	Yes: 61% No: 39%	Yes: 64% No: 36%	64% 36%	0.232
Delay in teething may cause illness?	Yes: 26% No: 74%	Yes: 26% No: 74%	Yes: 34% No: 66%	29% 72%	0.036
Does the child have allergies?	Yes: 22% No: 78%	Yes: 22% No: 78%	Yes: 29% No: 71%	24% 76%	0.096
The medicine should be given directly or with milk?	Directly: 87% With milk: 13%	Directly: 95% With milk: 15%	Directly: 87% With milk: 13%	91% 9%	0.001

Types of medicines mostly used?	Local anesthetic: 33% Antibiotic: 17% Analgesics: 50%	Local anesthetic: 33% Antibiotic: 11% Analgesics: 56%	Local anesthetic: 31% Antibiotic: 15% Analgesics: 54%	33% 14% 54%	0.476
Family income:	Poor: 6% Good: 60% Excellent: 34%	Poor: 3% Good: 74% Excellent: 23%	Poor: 2% Good: 69% Excellent: 38%	3% 70% 27%	0.018

Table 1: Comparison of survey responses based on the number of children.

### Discussion:

Painful teething is a process of a great deal of stress for many mothers. We aimed to determine the knowledge and practice of Saudi mothers towards the proper management of this issue. We divided our sample into three subgroups, which included age groups, educational levels, and the number of children. Since the respondents in the first two subgroups were far from equally divided among each other, we decided to compare our findings based on the number of children only. However, the total percentages were also being calculated for all questions and will be compared with other studies as the discussion progresses.

We compared our findings to a study conducted by Bankole, Taiwo, and Adesakin (2013) in Nigeria, which revealed that 59% of the respondents believed fever was associated with the teething process<sup>16</sup>. As far as our findings are concerned, 73% of the participants opted for fever. Diarrhea was also inquired if it was related to teething, 56% of the Nigerian mothers believed there is a relation, while 65% of the Saudi mothers believed the same. This misconception is seen among the mothers of several countries as both of the above-mentioned symptoms are not linked with the teething process in children<sup>17</sup>.

One of our literature review articles authored by Lam et al. (2016) revealed a linkage between smoking during pregnancy and painful teething among children. We asked our study participants regarding this issue and it was interesting to know that the experienced mothers (having 5 or more children) were aware of this fact as compared to other age groups. As mentioned above, this comparison among the groups was statistically significant.

As far as the management of symptoms related to teething was concerned, a study conducted by Adam and Iyoha (2015) demonstrated that the mothers used various remedies to tackle this problem<sup>18</sup>. Around 68% of the mothers used non-pharmaceutical remedies to provide pain relief to their children. Whereas, 55% of the study participants used pharmaceutical products such as analgesics and others to

relieve the pain. We inquired the Saudi mothers about this issue and found that the majority of them (77%) used non-pharmaceutical products and only 23% were in the favor of using pharmaceutical drugs.

The findings of our study suggest that having more experience in raising children did not affect the knowledge of mothers as far as the teething symptoms were concerned. The majority of the mothers opted for fever and diarrhea as the major symptoms associated with the teething process. However, this is a myth and the mothers seem to believe that it is a large number as shown in the results table.

We need to educate the parents especially mothers about the possible teething symptoms and their management. It is important to diminish the myths and beliefs related to the teething process and its consequences on children's health. Medical problems may be a result of any other disease than teething. The mothers may ignore the actual disease behind these symptoms.

### Conclusions:

- Knowledge of Saudi mothers is unsatisfactory regarding the teething process and its symptoms.
- Mothers having more experience with children showed slightly better awareness of the overall information and management of teeth process.
- Knowledge of teething symptoms was not satisfactory among all groups of mothers.

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