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## A study to assess the effectiveness of structured teaching programme on knowledge regarding first aid for burns and its prevention among mothers of under-five children in selected rural area of Tumkur

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### Abstract

A Quasi Experimental Design was used to evaluate the effectiveness of structured teaching programme on knowledge regarding first aid for burns and its prevention among mothers of under-five children. Purposive sampling technique was used for a sample of 60 under-five mothers in selected rural area at Tumkur. A semi-structured questionnaire was used to assess the knowledge. Descriptive and inferential statistics were used to analyze the data. The analysis and the data were based on the objective and hypothesis. Both descriptive and inferential statistics were used for data analysis.

It was revealed that in pretest 25(41.67%) subjects had inadequate knowledge, 35(58.33%) subjects had average and no one subject is not having adequate knowledge among mothers of under-five children regarding first aid for burns and its prevention in children.

It was revealed that in post 18(30%) subjects had average and 42(70%) subjects had adequate knowledge and no one subject is not having inadequate knowledge among mothers of under-five children regarding first aid for burns and its prevention in children.

Study proved that the mean post-test knowledge score (17.62) was greater than the mean pre-test score (9.52). The mean difference between pre-test score and post test score of 8.1 was significant at 5% level as the  $t=14.33$  ( $*p < 0.05$ ). Hence research hypothesis  $H_1$  was accepted. This indicates that the STP was effective in increasing the knowledge of mothers of under-five children regarding first aid for burns and its prevention in children.

**Interpretation and Conclusion:** The findings of the study indicated that STP was effective in increasing the knowledge regarding first aid for burns & its prevention among mothers of under-five children.

**Keywords:** Effectiveness, knowledge, structured teaching programme, first aid, under five children

### Introduction

“Do not wait for leaders; do it alone, person to person”.

Mother Theresa

Today's children are tomorrow's citizens. Childhood is a very special and vulnerable period of life. A bright future for an individual, for a family, for a society or for a country lies in providing a safer environment for children to grow and mature.

Accidental injuries are the leading cause of death in children under five years of age. The developmental stage of the child partially determines the type of injuries that are most likely to occur at a specific age. The toddler with highest curiosity to explore, investigate and with the ability to run and walk are more prone to variety of injuries like falls, burns, and collusion with the objects.

Prevention of childhood depends upon a reciprocal relationship between protection and education related to age. Under five children's needs to be totally protected. Parental protection and supervision of the child alters gradually with evidence of the growing responsible behavior of the child.

A burn is defined as an injury to the skin or other organic tissue caused by thermal trauma, it occurs when some or all of the cells in the skin or other tissues are destroyed by hot liquids, hot solids or flames, radiation, radioactivity, electricity, friction or contact with chemicals are also considered as burns.

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Burns are the only type of unintentional injury where females have a higher rate of injury than males. The fire related death rate for girls is 4.9 per 100 000 population, as against 3.0 per 100 000 for boys. Infants under the age of one year are still at significant risk for burns. The vulnerable groups are children in rural areas distant from medical care have higher incidences of burns and of their consequences.<sup>2</sup> Burns may be distinguished and classified as thermal burns, inhalational burns, first degree or superficial burns, second degree or partial-thickness burns, third-degree or full-thickness burns. Chemical burns electrical burns, radiation burns<sup>[1]</sup>.

According to data collected from the national burn information exchange reveal that, risk factors of burns includes, 75% of all burn injuries result from the actions of the victim, with many of these injuries occurring in the home environment. Contact with scalding liquids is the leading cause of burn injury. Scald injuries are results in the performance of everyday tasks such as bathing, cooking, overturned coffeepots, overheated foods, liquids cooked in micro wave ovens and hot tap water have been identified as specific causes. Approximately 10% of residential fire deaths are caused by children playing with matches or other ignition sources. Additionally faulty chimney's, flue vents, fixed heating units, fireplaces, central heating systems. Wood burning stoves, as well as human error, all have been implicated<sup>[2]</sup>.

Burns in children under the age of 4 year old at higher risk of hospitalization often occur from a mixture of curiosity and awkwardness. In children under the age of four years, the level of motor development does not match the child's cognitive and intellectual development and injuries can thus occur more easily. Infants under the age of 1 year are in a particular category, as their mobility starts to develop and they reach out to touch objects. Scald burns are the most frequent type of burns among children under the age of 6 years on observation that appears to come across geographic and economic groups<sup>[3]</sup>.

A study in four low income countries found that 65% of childhood burns had occurred in and around the home. Studies have also found that, the children of parents who smoke while in bed are at higher risk of burns than those who do not have parents who smoke. Two peak times of the day have been reported for incidents involving burns, the late morning, when domestic tasks are being done, and around the time for the evening meal<sup>[4]</sup>.

### Need for the study

Burns is a second leading cause of accidental death in children.

According to injury facts 2007 more than 39000 children per day or 14 million children per year required medical attention for an accidental injury. Every year 1, 20,000 children are permanently disabled by preventable injuries. In 2002 there were 5850 deaths due to preventable accidental injuries. Accidents occurring commonly in children 1 to 6 years include burns, falls, drowning, cuts, lacerations, abrasions, contusion, crush injuries choking and foreign body aspiration. A study done in Jaipur on unintentional injury prevention survey also reported that most common injuries encountered were poisoning (90%), falls (80.7%), burns and scalds (62.5%) and near drowning (42%).

A Population Survey of 30,554 people in New Delhi by

WHO [2003] revealed the mortality and incidence due to burns to be 10/100000 and 955/100000 Population per year respectively. During 2001, 32509 persons died in India due to burns.<sup>15A</sup> recent population based survey from Bangalore covering 96,569 individuals from 19,919 reported an incidence of burns 2500/100000 with higher rate in slum is 4100/100000 and in rural area is 2300/100000.

The death rate in low income and middle income countries was eleven times higher than that in high income countries, 4.3 per 1, 00,000 as against 0.4 per 1, 00,000. Most of the deaths occur in poorer regions of the world among the WHO regions of Africa and South East Asia and the low income and middle income countries of the eastern Mediterranean region.

A survey in India found that only 22.8% of patients had received appropriate first aid for their burns. The remainder had either received no first aid or else inappropriate treatment such as raw eggs, toothpaste, mashed potato or oil being rubbed into the burn. Education on the effect of immediate application of cool water to burns should be promoted widely as an affective first aid treatment.

A retrospective study was conducted to study the incidence, severity, extent, cause, risk factors and overall mortality. 309 children of burn injuries treated over last 10 years in Kasturba Hospital, Manipal, and Karnataka, India. The study found that the children of less than 5 years were affected 76.1% and more than children age >5 years is 23.9%. Females were affected 74.1% and males are affected 25.9%. Most of the children received burn injuries in the range of 0-20percent. Body surface area 63.1 percent, electric burn 3. % scalds 72.5% followed by flame 22.7% were most common cause of burn injuries. Overall pediatric burn mortality was 7.4 percent.

Educational programmes convey knowledge to parents. For prevention purposes educational programmes are often combined with programmes involving legislation and standards, education and counseling appear to be an effective in reducing the incidence of burns. Educating parents about the use of safety equipments has been shown to result in increased knowledge. Community programmes to ensure good supervision of children, and to educate parents about burns and to advice against the storage of flammable substances in the home, have all been proposed as primary prevention strategies for burns.

Children living in rural areas have significantly higher rates of hospitalization due to injuries than those living in urban areas.<sup>22</sup> In terms of facilities; rural areas have been found lacking the requisite needful. However Studies have revealed that primary caregivers have lack of knowledge on home safety and first aid management of scalds and burns. In case of a crisis, basic knowledge on prevention and first aid measures for burns will help to reduce morbidity and mortality rate due to burns in under-five children. There is need to conduct studies on knowledge, among primary caregivers.

Hence the researcher decided to carry out a study regarding mothers' knowledge about first aid for burns and its preventive measures that can be given by themselves to prevent further complications and it is anticipated that the mothers may be benefited in terms of knowledge gain, so that they can effectively deal with children in preventing and managing burns.

### Statement of the problem

"A study to assess the effectiveness of structured teaching

programme on knowledge regarding first aid for burns and its prevention among mothers of under-five children in selected rural area of Tumkur”.

### Objectives of the study

1. To assess knowledge among mothers of under-five children regarding first aid for burns and its prevention in children before the structured teaching programme.
2. To evaluate the effectiveness of the structured teaching programme (STP) on knowledge of mothers of under-five children regarding first aid for burns and its prevention in children.
3. To compare the pretest and posttest knowledge scores among mothers of under-five children regarding first aid for burns and its prevention.
4. To determine the association between knowledge among mothers of under-five children with selected socio demographic variables.

### Operational definitions

**Assess:** It is the organized, systematic and continues process of collecting data and the statistical measurement of knowledge regarding first aid for burns and its prevention by structured questionnaire.

**Effectiveness:** In this study, it refers to the extent to which the structured teaching programme is helpful in gaining knowledge by the mothers of under-five children regarding first aid for burns and its prevention after structured teaching programme.

**Structured teaching programme:** In this study, it is systematically developed programme with teaching aids, designed to impart knowledge, regarding first aid for burns and its prevention among mothers of under-five children.

**Knowledge:** In this study, it refers to the awareness and understanding regarding first aid for burns and its prevention among mothers of under-five children as evaluated by structured questionnaire.

**First aid:** First aid is the first assistance or treatment given to under-five children (casualty) by their mothers during burn injury before the arrival of qualified medical care by using facilities and materials at that time.

**Burn:** A burn is defined as an injury to the skin or other

organic tissue caused by thermal trauma i.e. by heat, friction, electricity, radiation, or chemicals.

**Prevention:** It refers to the action taken by the mothers prior to the occurrence and development of risk factors of burns in under-fives, which removes the possibility that risk factors will ever occur.

**Mothers of under-five children:** The mothers who are having children below five years of age group.

**Rural area:** Rural area is a group of people living in a geographical area where it doesn't have much facility and away from the cities and towns and fulfils the criteria of rural.

### Assumptions

The study assumes that

1. The mothers of under five children will have minimal knowledge regarding first aid for burns and its prevention.
2. Knowledge can be assessed using a structured questionnaire.
3. Structured teaching programme will enhance knowledge of mothers of under five children on first aid for burns and its prevention.

### Hypotheses

The hypotheses will be tested at 0.05 level of significance.

**H1:** There is a significant difference between the pre-test and post-test level knowledge scores among mothers of under-five children regarding first aid for burns and its prevention.

**H2:** There is a significant association between posttest level of knowledge of mothers and selected socio- demographic variables.

### Delimitations

The study is delimited to

1. Selected 60 mothers of under five children.
2. Selected rural area of Tumkur.
3. Selected topics of first aid for burns and its prevention which is included in the structured questionnaire.

### Conceptual framework

Conceptual framework based on Imogene king's goal attainment theory, as shown in fig.1.

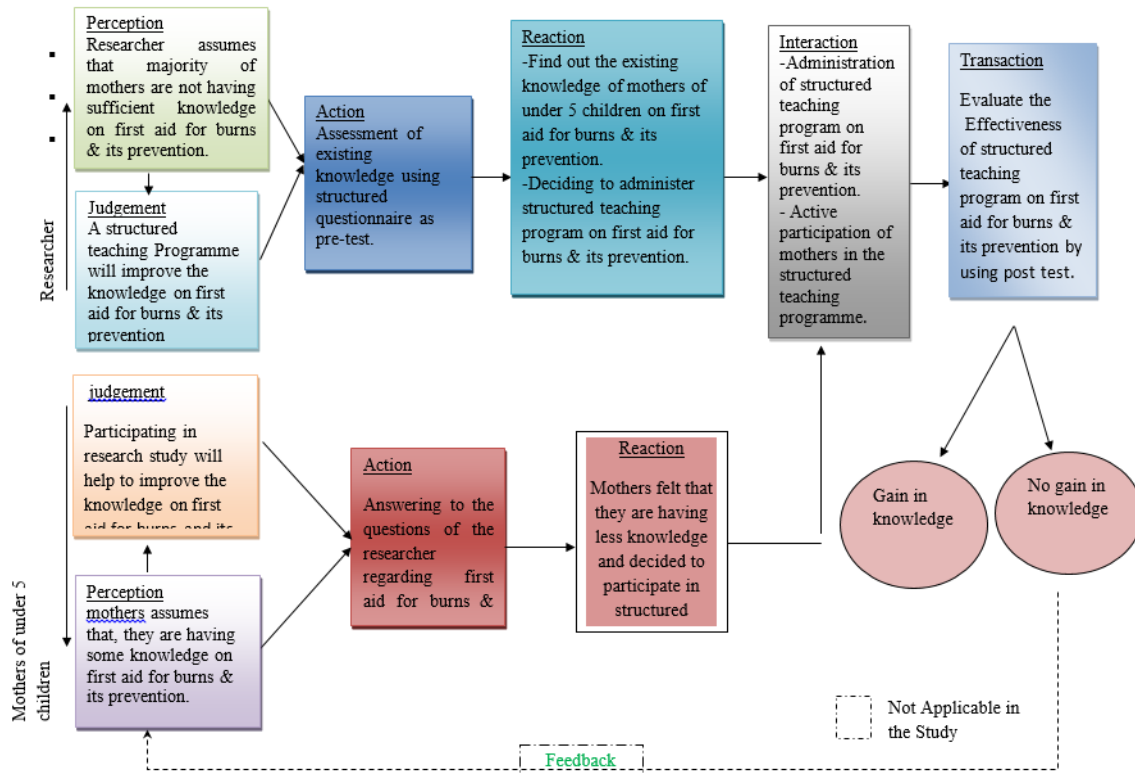


Fig 1: Conceptual framework based on Imogene King's goal attainment theory

**Research Methodology**

**Research Approach:** Quasi-experimental research design approach was adopted in this study.

**Research design:** One group pre-test-posttest design approach was used for the study.

**Setting of the Study:** the study was conducted in Chelur village in Tumkur.

**Population:** The population of the study were Mothers of Under-Five Children.

**Sample and sample size:** 60 Mothers of Under-Five Children.

**Sampling Technique:** Purposive sampling technique was used in this study.

**Variables of the study**

**Independent variable:** Structured teaching Programme on first aid for burns and its prevention.

**Dependent variable:** Knowledge of mothers of under five children on first aid for burns and its prevention.

**Major Findings of the Study**

The results have been organized and presented in 4 Parts:

**Part I:** Demographic characteristics of the mothers with under-five children.

**Findings revealed that out of 60 subjects**

- Majority of 30 (50%) of Mothers of Under-Five Children were in the age group of 20-30 & remaining 30 (50%) of Mothers of Under-Five Children were also

in the age group of 31-40 years

- Majority of 36 (60%) of Mothers of Under-Five Children were belongs to Hindu, while 14 (23.33%) of them were belongs to Muslim and 10 (16.67%) of them were belongs to Christian
- Majority of 50 (83.33%) of Mothers of Under-Five Children were belongs to Nuclear and 10 (16.67%) of them were belongs to Joint family
- Majority of 31 (51.67%) of Mothers of Under-Five Children were Secondary educated, while 12 (20%) of them were Higher Secondary educated, while 10 (16.67%) of them were Primary educated and 7 (11.67%) of them were graduates
- Majority of 21 (35%) of Mothers of Under-Five Children were had no information, while 18 (30%) of them were getting information from health personal, while 13 (21.67%) of them from parents/friends/relatives and 8 (13.33%) of them mass media
- Majority of 53 (88.33%) of Under-Five Children had no previous history of burns and 7 (11.67%) of Under-Five Children had previous history of burns

**Part II:** Knowledge of the mothers with under-five children regarding first aid for burns & its prevention.

**Section A:** Assessment of the level of existing knowledge

- Majority of 35 (58.33%) of Mothers of Under-Five Children average knowledge about first aid for burns & its prevention, while 25 (41.67%) of them had inadequate knowledge & Nobody had adequate knowledge

**Section B:** Area-wise analysis of the pre-test knowledge scores.

- The Majority of mothers with under five children had



highest knowledge in the area of prevention of burns with a mean percent of 46.71% followed by the first aid for burns with a mean percent of 37.56% and least knowledge in the area of management of burns with the mean percentage of 35.88%. The overall mean knowledge score was  $9.52 \pm 3.15$ , with a mean percent of 39.67% revealing that the overall knowledge of the mothers with under five children first aid for burns and its prevention is average

**Part III:** Effectiveness of structured teaching Programme on first aid for burns and its prevention.

**Section A:** Comparison of area-wise mean, standard deviation, and mean percentage.

- The total mean knowledge score is increased by 33.75% with mean  $\pm$ SD of  $8.1 \pm 0.44$  after the administration of structured teaching Programme.
- Comparison of the area wise mean and SD of the knowledge scores showed that, the effectiveness of structured teaching Programme in the area of 'first aid for burns' was 32.22%, with the mean and SD of  $2.9 \pm 0.1$ . It was observed that, the mean percent was 37.56% in pre-test and 69.78% in the post test. In the area of "management of burns" it was 37.62% with the mean and SD of  $3.01 \pm 0$ . It was observed that the mean percent was 35.88% in pretest and 73.5% in the post test. In the area of 'Prevention of burns' it was 31.15% increase in the mean percentage knowledge score with the mean and SD of  $2.18 \pm 0.53$ . The mean percent was observed as 46.71% in pre-test and 77.86% in post -test.

**Section B:** Comparison of the level of knowledge in pre-test with post- test and effectiveness of the study.

- The pre-test knowledge level of the majority of mothers with under five children (58.33%) had average knowledge and 41.67% had inadequate knowledge. The post- test knowledge level shows 70% of clients had adequate knowledge which was 0% in the pretest and 30% had average knowledge.
- The findings in table 6 revealed that the mean post test score was significantly higher than their mean pre-test score. The calculated 't' value (14.33,  $P < 0.05$ ) in knowledge aspect was greater than the table value (1.67) at 0.05 level of significance. Therefore, the null hypothesis was rejected and the research hypothesis was accepted indicating the gain in knowledge was not by chance. Hence it is concluded that there is very high significant gain in knowledge of mothers with under five children on first aid for burns and its prevention.

**Part IV:** Association between Pre-test knowledge score of mothers with under five children on first aid for burns and its prevention with selected demographic variables

- The calculated chi-square values are less than that of table value at 0.05 level of significance, hence the null hypothesis was accepted and it was concluded that there was no significant association between the pre-existing knowledge with the demographic variables on first aid for burns and its prevention. The chi square value of previous source of information related to burns was greater than that of table value at 0.05 level of significance, hence the null hypothesis is rejected and it was concluded that there was significant association

between the pre-existing knowledge and source of information.

### Conclusion

Findings of the Study Showed that, the posttest knowledge score ( $17.62 \pm 3.59$ ) was higher than the pre-test knowledge score ( $9.52 \pm 3.15$ ). Paired 't' test was used to find the effectiveness. The calculated 't' value in knowledge (14.33,  $P < 0.005$ ) was greater than the table value (1.67). This showed that the gain in the knowledge was significant after administering structured teaching Programme.

### Recommendations

Based on the findings of the study the following recommendations are put forward for the further research:

- Similar study can be undertaken on a larger sample to generalize the findings.
- A comparative study can be done between mothers in urban and rural areas.
- A similar study can be conducted with control group.
- A self-instructional module can be developed based on the learning needs of the mothers.
- A similar study can be conducted in other setting.
- A study can be conducted to assess the practice of mother regarding first aid for burns and its prevention.

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