



KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF HEAT STROKE AMONG MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME WORKERS.

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ABSTRACT

Heat stroke is a medical emergency and is more prevalent among outdoor workers so the researcher was intended to assess knowledge and practice regarding prevention of heat stroke among Mahatma Gandhi National Rural Employment Guarantee Scheme workers in Alappuzha. The theoretical framework adopted for the study was Nola J Pender's Health Promotion Model. The research design selected for the study was cross sectional design. The tool used in the study were interview schedule and observation checklist. Data were collected from 132 participants and the sampling technique was multistage sampling. Of these 132 participants, 74.2% had good knowledge, 58% had good practice regarding prevention of heat stroke. There was a significant association between knowledge regarding prevention of heat stroke with age ($\chi^2= 4.33$, $p = 0.037$), educational status ($\chi^2= 7.45$, $p = 0.006$) and type of family ($\chi^2= 10.96$, $p = 0.004$). Practice regarding prevention of heat stroke had a significant association with work experience ($\chi^2= 4.84$, $p = 0.028$) and also there is a weak positive correlation ($r = 0.065$) between knowledge and practice regarding prevention of heat stroke. The study findings suggests that there is a need for proper policy and guideline to prevent occupational heat stress in outdoor workers.

KEYWORDS : Heat stroke; MGNREGS workers; Knowledge; Practice; Prevention.

INTRODUCTION

Climatic conditions have entirely changed from previous times and it has led to extreme rise in atmospheric temperature. Extreme heat conditions are defined as weather that is much hotter than average for a particular time and place, some times more humid, too. Prolonged exposure to hot environment may leads to fatal condition like heat stroke.¹

Extreme heat causes more deaths than any other weather related hazards.² Prolonged and intense exposure to hot temperature can cause heat related illnesses such as heat exhaustion, heat cramp, heat syncope, heat stroke or sun stroke. Heat stroke is the most critical situation among these.³

Heat related injuries range from minor syndromes to life threatening emergencies and heat illness is viewed as a continuum of illnesses relating to the body's inability to cope with heat. There are two forms of heat strokes including exertional heatstroke and non- exertional heat stroke. Exertional heat stroke generally occurs in young individuals who engage in strenuous physical activity for a prolonged period of time in a hot environment, whereas non-exertional heatstroke affects sedentary elderly individuals, chronically ill and very young persons.

Climate change will exert a significant effect on indoor and outdoor workers such as those in agriculture, fishing, construction and in many service areas. Workers who are exposed to extreme heat in hot environment, either indoors or outdoors are at risk of heat related illness and those who engage in strenuous physical activities will be at the risk of heat stress.^{3,4}

Heat related occupational illness, injuries and reduced productivity occurs when the total heat load affects the capacity of the body to maintain normal functions. The adverse health effects can be reduced through the assessment of heat stress, medical monitoring, proper application of engineering, work practice control, work training and acclimatization and also through the proper use of protective clothing and personal protective equipment's.

The National Rural Employment Guarantee Act implemented on 7th September 2005 aims to enhance livelihood security of households in rural areas of the country by providing at least

100 days of guaranteed wage employment in a financial year to the adult members in each household who volunteers to do unskilled manual work. Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) workers are both male and female adult members who work under Indian labour law and social security measure that aims to guarantee the 'right to work'. The list of work allotted to them are water conservation and water harvesting, drought proofing including afforestation and tree plantation, irrigation of canals including micro and minor irrigation works, provision of irrigation facility, horticulture plantation and land development. Renovation of traditional water bodies including desilting of tanks, land development, flood control and protection works including drainage in water logged areas, rural connectivity to provide all-weather access etc. Since all these are outdoor works and workers are more exposed to sunlight and heat due to burning of waste materials without adequate precaution, there is a high risk of developing heat related illness.

STATEMENT OF THE PROBLEM

Assessment of Knowledge and Practice regarding the prevention of heat stroke among Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) workers in Alappuzha district.

OBJECTIVE

1. To assess the knowledge regarding prevention of heat stroke among MGNREGS workers in Alappuzha.
2. To assess the practice regarding prevention of heat stroke among MGNREGS workers in Alappuzha.
3. To find out the association between knowledge of MGNREGS workers regarding the prevention of heat stroke and socio personal variables.
4. To find out the association between the practice of MGNREGS workers regarding prevention of heat stroke and socio personal variables.
5. To find out the correlation between knowledge and practice of MGNREGS workers regarding prevention of heat stroke.

RESEARCH APPROACH

Quantitative research approach

RESEARCH DESIGN

In this study the research design is cross sectional design.

VARIABLES

Study variable

Knowledge regarding prevention of heatstroke

Practice regarding prevention of heat stroke

DEMOGRAPHIC VARIABLES

Age, gender, education, monthly family income, type of family, sources of information about heat stroke and work experience under MGNREG scheme.

SETTING OF THE STUDY

Ward II, IV, V, VII, IX of Ambalappuzha North Grama Panchayat.

POPULATION

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) workers.

SAMPLE AND SAMPLING TECHNIQUE

SAMPLE

MGNREGS workers in ward II, IV, V, VII, IX of Ambalappuzha North Grama Panchayat

Sample size

- Sample size is calculated by using the formula,
- $N = (1.96)^2 pq/d^2 = 4pq/d^2$
- Sample size obtained is 66. For adjusting the design effect sample size doubled i.e., estimated sample size n = 132.

SAMPLING TECHNIQUE

Multistage sampling

EXCLUSION CRITERIA

- MGNREGS workers who had attended any awareness programme about the prevention of heatstroke.
- Those who can't understand Malayalam.

Tools and Technique

Tool 1- Interview schedule

Section 1 – Socio personal data

Section-2 – Assessment of knowledge regarding prevention of heatstroke.

Technique: Interview

Tool-2- Observation check list to assess practice regarding prevention of heat stroke

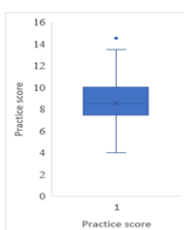
Technique: - Observation

RESULT

Knowledge regarding prevention of heat stroke

It was observed that majority 74.2% had good knowledge regarding prevention of heat stroke and 25.8% had poor knowledge regarding prevention of heat stroke.

Practice regarding prevention of heat stroke.



Practice score	
Mean	8.54
Median	8.48
Mode	10

SD	2.037
Minimum	4
Maximum	15

Fig.1: Distribution of practice score.

Fig 1 shows the Box and Whisker plot diagram of practice score distribution. Here the mean, median and mode shows a skewed distribution. So median value taken as a cut off value.

The result of practice regarding prevention of heat stroke in the present study revealed that 57.6% had good practice regarding prevention of heat stroke and 42.4% had poor practice regarding prevention of heat stroke.

Association between Knowledge regarding prevention of heatstroke and socio personal variables

- There was a significant association between knowledge regarding prevention of heat stroke and age ($\chi^2 = 4.33, p = 0.037$).
- There was no significant association between knowledge regarding prevention of heat stroke and gender ($F = 0.03, p = 1.00$).
- There was a significant association between knowledge regarding prevention of heat stroke and educational status ($\chi^2 = 7.45, p = 0.006$).
- Association between Practice regarding prevention of heatstroke and socio personal variables
- There was no significant association between practice regarding prevention of heat stroke and age ($\chi^2 = 0.37, p = 0.543$).
- There was no significant association between practice regarding prevention of heat stroke and gender ($F = 2.72, p = 0.099$).
- There was no significant association between practice regarding prevention of heat stroke and educational status ($\chi^2 = 1.34, p = 0.246$).

Correlation between Knowledge and Practice regarding prevention of heat stroke

There was weak positive correlation between Knowledge and Practice regarding prevention of heat stroke.

NURSING IMPLICATION

The present study has got implication in the field of nursing practice, nursing administration and nursing research.

Nursing Practice

- Community health nurses should provide IEC and BCC activities for group leaders of MGNREGS workers for the prevention of heat related illness.
- Community health nurses should assess the risk of development of heat related illness and take adequate preventive measures to avoid further complications.
- In hospital, the nurses in emergency department should develop adequate knowledge and skill regarding the symptomatic differentiation of heat related illness.
- Nursing Administration
- Nurse administrator should conduct in-service education programme on symptomatic differentiation of heat related illness and emergency treatment modalities.
- Nurse administrator should organize awareness programme in the hospital focusing laymen in the community regarding preventive measures of heat stroke and other heat related illness.
- Nurse administrator should take initiative for providing better services in emergency department especially in summer season.
- Nurse administrators should involve in formulating policy for health promotion activities and prevention of heat illness in outdoor workers.

Nursing Education

- Nursing curriculum should be equipped with knowledge and skill to prepare prospective nurses to assist every members of the community in developing their own potential in adopting life style during summer season and while engage in outside work.
- Student nurses should prepare teaching materials containing preventive practices especially in summer season to prevent further complications.
- Nursing Research
- The findings of the study can be used as a reference by the research scholars.
- There is a need for extensive and intensive research in these areas to develop strategies for educating people regarding the prevention of heat stroke.
- The nurse researchers should disseminate the research findings for further exploration and application by publishing in regional, national and international journals.

CONCLUSION

Heat stroke is an emergency and fatal condition; the outdoor workers are more prone to develop heat related illness. So there is an increased need for education among outdoor workers related to prevention of heat stroke. The present study aimed to assess the knowledge and practice regarding prevention of heat stroke among outside workers, and the investigator choose MGNREGS workers as the participants. The study result reveals that majority 74.2% had good knowledge regarding prevention of heat stroke and 25.8% had poor knowledge regarding prevention of heat stroke and 57.6% had good practice regarding prevention of heat stroke and 42.4% had poor practice regarding prevention of heat stroke. The study also point out that that the age, educational status and type of family have a significant association with knowledge, and work experience has a significant association with practice regarding prevention of heat stroke.

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