A STUDY TO ASSESS THE EFFECTIVENESS OF BASIC CARE LIFE SUPPORT (BCLS) TRAINING ON KNOWLEDGE AND SKILLS AMONG NURSING OFFICERS WORKING IN SELECTED HOSPITALS AT BAGALKOT, KARNATAKA

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ABSTRACT:

Fundamental emergency treatment of a client of cardiac or respiratory arrest consisting of cardiopulmonary resuscitation that is provided until more precise medical treatment can begin. In this study BCLS means emergency treatment of a client with cardiac or respiratory arrest consisting of cardiopulmonary resuscitation as prescribed in the basic care life support. Aim of the study is to assess the effectiveness of Basic Care Life Support (BCLS) training on Knowledge and Skills among nursing officers working in selected hospitals at Bagalkot, Karnataka. The research approach was quantitative approach and the design selected for the study is True experimental pre-test post-test control group design. The study was conducted at selected hospitals of Bagalkot like Dhanush Hospital, HSK Hospital, Knowledge and skills of Nursing officers regarding the BCLS assesses using structured knowledge questionnaire and observation checklist respectively. Reliability of knowledge questionnaire was evaluated by using split-half method and the Guttman's reliability coefficient obtained was 0.86 and Cronbach's alpha value was 0.945 and reliability for observation check-list was assessed with the help of inter-rater reliability and reliability coefficient obtained was 0.82. Results shows a statistically significant improvement in knowledge scores relative to baseline for both experimental and control groups ($F=33.47$, $p<0.001$). The group and time interaction effect was statistically significant ($F=20.807$, $p<0.001$). The effect size was larger for time and time and group interaction effect. This revealed that skills at second post test follow up assessment increased more effectively in the experimental group than in control group, indicating BCLS training was effecting in enhancing the skills of nursing officers regarding the Basic Care Life Support.

Key word: *Basic Cardiopulmonary Life Support (BCLS), Health care, cardiac arrest.*

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INTRODUCTION:

Basic life support (BLS) is defined as a variety of non-invasive emergency procedures performed to assist in the immediate survival of a patient, including cardiopulmonary resuscitation, haemorrhage control, stabilization of fractures, spinal immobilization, and basic first aid. The main aim is to maintain sufficient blood circulation and breathing through a clear airway. Some of these procedures can be lifesaving and are often important to implement early. Aim of the study is to assess the effectiveness of Basic Care Life Support (BCLS) training on Knowledge and Skills among nursing officers working in selected hospitals at Bagalkot, Karnataka".

Srivilaithon W et al 2018 conducted a study about attitude and knowledge regarding basic-life-support among college students outside medical system. The cross-sectional study in the emergency department of Thammasat Hospital. The authors included college students at least aged 18 years old and volunteers to be study subjects. The authors collected data about attitudes and knowledge in performing basic-life-support by using set of questionnaires. 250 college students participated in the two hours training program. Most of participants (42.4%) were second-year college students, of which 50 of 250 participants (20%) had trained in basic-life-support program. Twenty-seven of 250 participants (10.8%) had experience in basic-life-support outside the hospital. Most of participants had good attitude for doing basic-life-support. Participants had a significant improved score following training (mean score 8.66 and 12.34, respectively, $p<0.001$). Thirty-three of 250 participants (13.2%) passed the minimum score before trained testing, whereas 170 of 250 participants (68%) passed the minimum score after trained testing. With accurate knowledge and experience, lay rescuers may have more confidence tope7form basic-life-support to cardiac arrest patient. The training program in basic-life-support has significant impact on knowledge after training **(Srivilaithon W et al 2018).**

MATERIALS AND METHODS

Conceptual framework for the study is developed based on the General System Theory (Von Ludwig Bertalanffy 1968). The research approach was quantitative approach and the design selected for the study is True experimental pre-test post-test control group design. The study was conducted at selected hospitals of Bagalkot like Dhanush Hospital, HSK Hospital, Patil Medicare and Shanti Hospital from where 200 Nursing officers who met sampling criteria were selected and randomly allocated 100 to experimental group and 100 to control group with the help of computer generated random sequence numbers. Knowledge and skills of Nursing officers regarding the BCLS assesses using structured knowledge questionnaire and observation checklist respectively. Reliability of knowledge questionnaire was evaluated by using split-half method and the Guttman's reliability coefficient obtained was 0.86 and Cronbach's alpha value was 0.945 and reliability for observation check-list was assessed with the help of inter-rater reliability and reliability coefficient obtained was 0.82.

Before the main study a pilot study was conducted at Mural Inamdar Hospital, Bagalkot to see the feasibility and practicability of proposed research. Pilot study findings confirmed that, it was feasible to undertake the main study. However few modifications were made in the wordings of intervention as per the understanding levels of subjects. The main study was conducted from April 2020 to May 2020. All the participants of experimental group underwent BCLS training programme lasting for 50-70 minutes. Outcome variables were measured at three points in time; before intervention, 7^{th} day after intervention, and one after intervention.

The data were analyzed using Statistical Package for Social Sciences (SPSS) version 25, and the level of significance was fixed at 0.05. Both descriptive and inferential statistics were used for analyzing the data. Ethical clearance was obtained from institutional ethical clearance committee and permission was taken from concerned authorities of selected hospitals of Bagalkot.

DISCUSSIONS

Basic life support (BLS) is defined as a variety of non-invasive emergency procedures performed to assist in the immediate survival of a patient, including cardiopulmonary resuscitation, hemorrhage control, stabilization of fractures, spinal immobilization, and basic first aid. The main aim is to maintain sufficient blood circulation and breathing through a clear airway. Some of these procedures can be lifesaving and are often important to implement early. In the present study, basic care life support training was given for nursing officer in experimental group to improve knowledge and skills. The statistical test repeated measure-ANOVA was performed to compare the differences between experimental group and control group subjects on knowledge and skills from baseline (pre-test) to second post intervention assessment. Overall the present study shows that BCLS training was effecting in enhancing the knowledge and skills of nursing officers regarding the Basic Care Life Support.

The present study shows that Nursing officers in experimental group had a mean knowledge score of 15.19±3.56 at pre-test and 19.32±4.15at second posttest. Nursing officers in control group had a mean knowledge score of

14.65±3.3at pre-test and 16.32±1.35at second posttest. Pre-test for both the experimental and control groups (F=33.47, p<0.001). The group and time interaction effect was statistically significant (F=20.807, p<0.001). The effect size was larger for time and group effect. This revealed that knowledge at second post-test follow up assessment increased more effectively in the experimental group than in control group, indicating BCLS training was effecting in enhancing the knowledge of nursing officers regarding the Basic Care Life Support.

The finding is supported by Salameh B et al (2018) study on comparative assessment of basic life support knowledge between professional nurses and nursing students shows that ANOVA test was performed, and highly statistically significant differences were found between nurses' level of education and the total mean of BLS knowledge scores was 5.40 (*P* = 0.005); bachelors group had the highest mean (58.81). Furthermore, statistically significant differences were found between wards of nurses work, and the total mean of BLS knowledge scores was 4.29 (*P* = 0.001). The CCU had the highest mean (71.67), followed by the Emergency Department with a mean of 65.29, and then by ICU with a mean of 61.55. Moreover, no significant differences were found between students' educational level and the total mean of BLS knowledge scores (*P* = 0.518), just as no statistically significant differences were found between nurses' work experience and total mean of BLS knowledge scores (*P* = 0.092) (Salameh B et al 2018).

The finding is supported by Kose, S., et al (2019) on the effectiveness of basic life support training on knowledge and practices among nursing students. showed that, after basic life support training, level of knowledge and practical skill scores were higher compared to pre-training scores (t= -12.442, p=0.000; t= -22.899, p=0.000). There was a significant and moderate association between the adult basic life support Knowledge Form scores and the adult basic life support practice assessment form scores obtained after the training (r = 0.39, p<0.01).The study concluded that basic life support training improved knowledge and skills related to basic life support practices in nursing students (Kose, S., et al 2019).

CONCLUSIONS

- Nursing officers in experimental group had a mean knowledge score of 15.19±3.56 at pre-test and 19.32±4.15 at second post test. Nursing officers in control group had a mean knowledge score of 14.65±3.3 at pre-test and 16.32±1.35 at second post test. Results shows a statistically significant improvement in knowledge scores relative to baseline for both experimental and control groups (F=33.47, p<0.001). The group and time interaction effect was statistically significant (F=20.807, p<0.001).
- The effect size was larger for time and group effect. This revealed that knowledge at second post test follow up assessment increased more effectively in the experimental group than in control group, indicating BCLS training was effecting in enhancing the knowledge of nursing officers regarding the Basic Care Life Support.
- Nursing officers in experimental group had a mean skills score of 9.97±2.53 at pre-test and 14.55±2.22 at second post test. Nursing officers in control group had a mean skills score of 10.03±2.0 at pre-test and 11.73±2.45 at second post test. Pre-test for both the experimental and control groups (F=34.05, p<0.001). The group and time interaction effect was statistically significant (F=53.76, p<0.001).
- The effect size was larger for time and time and group interaction effect. This revealed that skills at second post test follow up assessment increased more effectively in the experimental group than in control group, indicating BCLS training was effecting in enhancing the skills of nursing officers regarding the Basic Care Life Support.

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