



# “Effectiveness of Video Assisted Teaching Program on Knowledge Regarding Basic Life Support Strategies among Students Studying In B.V.V.S Bachelor of Physical Education College at Bagalkot” Karnataka, India.

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## KEYWORDS

B.P. Ed, (Bachelor of physical education) BLS, (Basic life support) ACLS, (Advanced cardiovascular life support) CPR (Cardio Pulmonary Resuscitation), EMS (Emergency Medical Services), SCA (Sudden Cardiac Arrest), VATP (video assisted teaching programme)

## ABSTRACT:

**Introduction:** Sudden cardiac arrest is a major cause of death in developed countries, resulting from a sudden stop in heartbeat and breathing. Basic life support (BLS) and cardiopulmonary resuscitation are crucial in emergency cardiac care. Prompt recognition, early resuscitation, defibrillation, and advanced measures can prevent many deaths. Physical education students play a crucial role in ensuring children's safety during sports classes.

**Objectives:** To evaluate the effectiveness of video assisted teaching program on the knowledge regarding basic life support strategies among Physical education students.

**Methods:** An evaluative study with a sample of 50 under graduates' physical education students B.P. Ed college vidyagiri Bagalkot. was selected by purposive sampling technique. The data was collected by using Self-prepared knowledge assessment questionnaires' The data was entered in MS excel sheet and transferred to SPSS 25 for analysis.

**Results:** Among 50 samples 68% were males and 32% were females. Among 50 participants in pre-test, 48 students were having moderately adequate knowledge and 2 students were having Inadequate knowledge. In post- test 39 students were having adequate knowledge and only 11 were having moderately adequate knowledge.

**Conclusions:** The study found a significant positive correlation between pretest and post-test values, suggesting that video-assisted teaching improves knowledge on basic life support strategies among physical education students, potentially saving lives.

## 1. Introduction:

Atmospheric air contains 21% oxygen, crucial for the human body's metabolic process. Deprivation of oxygen for more than four minutes can lead to unconsciousness and death, damaging tissues and organs like the heart and brain. The human heart pumps blood throughout the body, supplying oxygen and nutrients to tissues and removing waste.<sup>1</sup> The heart, a muscular organ, takes in deoxygenated blood and delivers it to the lungs for oxygenation. Sudden cardiac

arrest is a major cause of death in developed countries, with many people suffering from respiratory arrest or cardiac arrest.<sup>2</sup> Common causes of sudden death include heart attack, electrical shock, drowning, and drug reactions. Cardiopulmonary Resuscitation (CPR) is part of emergency cardiac care, preventing many deaths by recognizing problems, implementing early measures, and defibrillation.<sup>3</sup> Cardiac arrest is a major public health crisis, with over 356,000 out-of-hospital cardiac arrests annually in the US, with 90% of them fatal. Cardio Pulmonary Resuscitation (CPR) is crucial in



preventing life-threatening situations like suffocation, near drowning, and heart attacks. Early CPR, including bystander CPR, is associated with improved survival to hospital discharge rates. Research shows that trained individuals are more likely to perform bystander CPR, leading to increased survival rates and improved patient outcomes. This is especially important for medical, para-medical, and non-medical personnel. However, CPR requires adequate knowledge and competency, and without it, the risk of losing a victim increases. This study aims to educate school students on CPR, focusing on health behaviour and cognitive and psychomotor changes, to improve society and save lives.<sup>4</sup> The association recommends changing the A-B-C sequence of CPR to C-A-B for all rescuers to revive sudden cardiac arrest victims. This change allows for immediate chest compressions, which are essential for maintaining oxygen-rich blood circulation. CPR should be performed within four to six minutes after cessation of breathing to prevent brain damage or death. The two-part procedure involves rescue breathing and external chest compression.<sup>5</sup> Emergency personnel, including police officers, firefighters, paramedics, doctors, and nurses, are trained in CPR and First Aid. Many jobs require certification, and courses are available at colleges and technical schools. However, there is a lack of knowledge about basic life support among students and the general population. Video-assisted teaching programs could reduce sudden cardiac arrest rates in schools.<sup>6</sup>

## 2.Objectives

To assess the knowledge regarding basic life support strategies among physical education students. To evaluate the effectiveness of video assisted teaching program on the knowledge regarding basic life support strategies among Physical education students. To find out the association between the level of knowledge on basic life support strategies with their selected socio-demographic variables of physical education students.

## 3.Methods:

evaluative study with an aim to assess to the effectiveness of video assisted teaching program on the knowledge regarding basic life support strategies among Physical education students at Bagalkot. A sample of 50 was selected by purposive sampling method to select the physical education student's 2nd year in to the study.

## Study participants:

The study participants were 50 under graduate physical educations 2nd year Students from Basaveshwar college of physical education, Vidyagiri, Bagalkot.

## Setting of the study:

Based on the investigator's familiarity, availability of the subjects and feasibility to conduct the study, the present study was conducted in Basaveshwar college at Bagalkot.

## Sampling technique:

purposive sampling method was used to select the subjects from B.P. Ed college vidyagiri Bagalkot.

## Sample size estimation:

The sample size for the present study was estimated using the following the sample size for the present study was estimated using the G-Power 3.1.9.4 software.

The following criteria were considered for sample size calculation.

- Power of the test ( $1-\beta = 0.95$ )
- Level of significance is 5%
- Two Tailed

The outcomes of Pilot study were used to calculate the sample size. The outcomes were

Pretest – Mean  $\pm$  S.D =  $12.7 \pm 2.72$

Post-test – Mean  $\pm$  S.D =  $14.2 \pm 2.59$

The calculated effect size was 0.56. hence the calculated sample size was 43. Considering the possibility of attrition or missing data, the researcher rounded off the sample size to 50 (including around 20% extra sample size). Hence the final sample size used in this study is 50 physical education students.

## Data collection Instrument:

by using Self-prepared knowledge assessment questionnaires'

## Translation and reliability of data collection instruments:

The instruments were translated in to Kannada language and retranslated in to English. Similarity between original and translated tool were ascertained by linguistic experts. The reliability Self-prepared knowledge assessment questionnaires were established by Odd-Even method. The tools were administered to 6 physical education students. by using Karl Pearson correlation by deviation method. the r value was found to be 0.8 Since, the reliability co-efficient of R is more



than 0.7. The Self prepared knowledge assessment questionnaire was found to be more reliable suggesting all the tools were reliable for conducting the study.

#### Data collection Procedure:

Data collection was done for 4 days from 04-08-2023 to 07-08-2023 at Basaveshwar college of Physical education, Vidhyagiri Bagalkot. A formal Permission was obtained from the Principal of Sajjalashree Institute of Nursing Sciences Navanagar Bagalkot. Then permission was obtained from the Principal of Basaveshwar college of Physical education, Vidhyagiri Bagalkot. The purpose of the study was explained to the principal of this college. The investigator given self-introduction explained the purpose of data collection to the subjects and subject's willingness to participate in the study was ascertained. The subject was assured the anonymity and confidentiality of the information provided by them. Self-prepared knowledge assessment questionnaire was administered to students to assess the Knowledge regarding Basic Life support Strategies. Each participant has taken around 30 minutes to complete Self prepared knowledge assessment questionnaire.

#### Ethical clearance:

Ethical clearance certificate was obtained from Institutional ethical clearance committee, B.V.V.S Sajjalashree Institute of Nursing sciences, Bagalkot (ref No. BVVSSIONS-IEC/2022-23/995 Dt:16/08/2022) written consent of participation was obtained from participants before data collection.

#### Statistical analysis:

The data was analysed using SPSS version 25. The obtained data was entered in MS excel sheet. The data was edited for accuracy and completeness. The categorical responses were coded with numerical codes. The data was presented with frequency and percentage distribution tables and diagrams. The description of Mean and standard deviation was be used to assess the level of knowledge and skills on Basic Life Support Strategies. The chi-square ( $X^2$ ) test will be used to find out the association between the demographic variables with the Basic life support strategies.

#### 4.Results:

##### PART I: - Description of Sociodemographic variables of student

| N=50   |       |           |            |
|--------|-------|-----------|------------|
| Sl. No | Age   | Frequency | Percentage |
| 1      | 22-24 | 20        | 40%        |
| 2      | 25-27 | 22        | 44%        |
| 3      | 28-30 | 8         | 16%        |

| Sl. No | Sex         | Frequency | Percentage |
|--------|-------------|-----------|------------|
| 1      | Male        | 34        | 68%        |
| 2      | Female      | 16        | 32%        |
| 3      | Transgender | 0         | 0%         |

| Sl. No | Religion  | Frequency | Percentage |
|--------|-----------|-----------|------------|
| 1      | Hindu     | 29        | 58%        |
| 2      | Muslim    | 14        | 28%        |
| 3      | Christion | 7         | 14%        |
| 4      | Other     | 0         | 0%         |

| Sl. No | Father Education  | Frequency | Percentage |
|--------|-------------------|-----------|------------|
| 1      | Illiterate        | 15        | 30%        |
| 2      | Primary Education | 15        | 30%        |
| 3      | Higher Primary    | 5         | 10%        |
| 4      | PUC               | 11        | 22%        |
| 5      | Degree & above    | 4         | 8%         |

| Sl. No | Mother Education  | Frequency | Percentage |
|--------|-------------------|-----------|------------|
| 1      | Illiterate        | 14        | 28%        |
| 2      | Primary Education | 18        | 36%        |
| 3      | Higher Primary    | 7         | 14%        |
| 4      | PUC               | 6         | 12%        |
| 5      | Degree & above    | 5         | 10%        |

| Sl. No | Family income   | Frequency | Percentage |
|--------|-----------------|-----------|------------|
| 1      | Below 10000     | 4         | 8%         |
| 2      | 10000-15000     | 12        | 24%        |
| 3      | 15000-20000     | 18        | 36%        |
| 4      | More than 20000 | 16        | 32%        |

| Sl. No | Previous CPR knowledge | Frequency | Percentage |
|--------|------------------------|-----------|------------|
| 1      | Yes                    | 09        | 18%        |
| 2      | No                     | 41        | 82%        |

| Sl. No | If yes source of information through | Frequency | Percentage |
|--------|--------------------------------------|-----------|------------|
| 1      | Media                                | 6         | 66.66%     |
| 2      | Books                                | 0         | 0%         |
| 3      | Relatives                            | 02        | 22.22%     |
| 4      | Friends                              | 01        | 11.11%     |

##### PART II: Frequency and Percentage wise distribution according Knowledge on Basic Life Support Strategies among B.P. Ed students

| N=50     |           |
|----------|-----------|
| Pre-test | Post-test |



| Level of Knowledge  | F  | %  | F  | %  |
|---------------------|----|----|----|----|
| Inadequate          | 02 | 4  | 0  | 0  |
| Moderately adequate | 48 | 96 | 11 | 22 |
| Adequate            | 0  | 0  | 39 | 78 |

Above table shows that level of knowledge in pretest, 48 students were having moderately adequate knowledge and 2 students were having Inadequate knowledge. In post-test 39 students were having adequate knowledge and only 11 were having moderately adequate knowledge. This shows the significant difference between mean post test score and pretest score of knowledge of basic life support. Hence, it's clear that statistically difference is seen.

### PART III: - Association between the level of knowledge on basic life support strategies with selected their socio- demographic variables of physical education students.

| Sl. No. | Sociodemographic variables             | Df | x <sup>2</sup> calculate d value | N=50<br>X <sup>2</sup> table value |
|---------|----------------------------------------|----|----------------------------------|------------------------------------|
| 1       | Age                                    | 1  | 0.17                             | 3.846                              |
| 2       | Gender                                 | 1  | 0.02                             | 3.846                              |
| 3       | Religion                               | 1  | 0.60                             | 3.846                              |
| 4       | Father education                       | 1  | 0.02                             | 3.846                              |
| 5       | Mother education                       | 1  | 0.10                             | 3.846                              |
| 6       | Family income                          | 1  | 0.0                              | 3.846                              |
| 7       | Previous knowledge about BLS           | 1  | 1                                | 3.846                              |
| 8       | If yes, sources of information through | 1  | 0.5                              | 3.846                              |

\* Significant  $\alpha = 0.05$

### PARTV: - Correlation Between Level of Knowledge Regarding Basic Life Support Strategies.

| Observed | Mean | Standard Deviation | 't'   | 'P'   |
|----------|------|--------------------|-------|-------|
| Value    |      |                    | Value | Value |

|                              |             |      |     |     |      |        |             |
|------------------------------|-------------|------|-----|-----|------|--------|-------------|
| <b>Knowledge score total</b> | Pre – test  | 12.7 | 9.2 | 1.7 | 20.8 | 0.0001 | Significant |
|                              | Post – test | 21.9 |     | 2.5 |      |        | P < 0.05    |

### 2. Discussion:

It is an evaluative study to assess the effectiveness of video assisted teaching program on the knowledge regarding basic life support strategies among Physical education students in selected college at Bagalkot.” A similar study was conducted to assess the knowledge on BLS among students of public and private high school both in the city of Maceio, state of Alagoas, Brazil. Study concluded that Before training, most students had insufficient knowledge about CPR and AED; after BLS training a significant immediate and delayed improvement in learning was observed in private students.<sup>7</sup> A similar cross-sectional study was conducted to on Knowledge, Attitudes and Perceptions Regarding Basic Life Support Among Teachers enrolled at a South African university. The study concluded that Student-teachers surveyed in this study displayed poor knowledge and perceptions but positive attitudes with regards to the practice of CPR and BLS.<sup>8</sup> A similar study was conducted to assess knowledge, attitude and practice of basic life support among physical therapy practitioners in Rawalpindi and Islamabad. All (100%) participants showed positive attitude towards basic life support training. The study concluded that Physical therapy practitioners possessed average basic life support knowledge, but practicing skills were lacking.<sup>9</sup> A similar cross-sectional study was conducted to assess the awareness, attitude, and knowledge about basic life support (BLS) among medical, dental, and nursing students and faculties of Kalinga Institute of Dental Sciences (KIDS), Kalinga Institute of Medical Sciences (KIMS), KIIT University, in Bhubaneswar, Odisha, India. The results of study showed that results with  $P < 0.05$  were considered statistically significant. Our participants were aware of BLS, showed positive attitude toward it, whereas the knowledge about BLS was lacking, with the statistically significant P value.<sup>10</sup> A similar A prospective and cross-sectional study was conducted to assess the knowledge, attitudes and perceptions of student-teachers pertaining to BLS. The study concluded that Student-teachers surveyed in this



study displayed poor knowledge and perceptions but positive attitudes with regards to the practice of CPR and BLS.<sup>11</sup> A similar study was conducted to assess effectiveness of basic life support instruction among 104 Physical Education Students in Gdansk, Poland. The study concluded that Students of both intervention groups improved their BLS knowledge after the training. Teaching methods used in the current study seemed to be ineffective in terms of practical CPR skills.<sup>12</sup> A similar Quasi Experimental study was conducted to evaluate the effectiveness of planned teaching program regarding Basic life support on knowledge and practices of non-medical teaching staff of selected universities of North India Mullana, Ambala, Haryana. And Solan, Himanchal Pradesh. The study concluded that (BLS) was effective in enhancing the knowledge and Practices of non-medical teaching staff regarding Basic Life Support.<sup>13</sup>

A similar pre-experimental study was conducted to assess the effectiveness of video assisted teaching program on knowledge of basic cardiac life support among school teachers in a selected school at erode district. The study concluded that the video assisted teaching programme was effective in improving knowledge regarding basic cardiac life support.<sup>14</sup> A similar study was conducted to know the prevalence and determinants of sudden cardiac deaths in rural South India. The study concluded that Sudden cardiac death accounted for up to half of the cardiovascular deaths in rural Southern India. Traditional cardiovascular risk factors were strongly associated with SCD.<sup>15</sup> A similar A quasi-experimental study was conducted to assess the quality of BLS when performed by school teachers after a brief and simple training program. the study concluded that were able to perform the BLS sequence and to produce chest compressions with a quality similar to that obtained by staff with a duty to assist cardiac arrest victims.<sup>16</sup> A similar cross-sectional study was conducted to assess the existing knowledge of BLS among primary and secondary school teachers in Hebron, Palestine. The results showed that in general, only 42.5% of school teachers knew about CPR, but 57.5% had no previous information about CPR.<sup>17</sup>

A similar Descriptive Study was conducted to identify underlying aetiology, precipitating factors, the outcome in terms of survival, and the predictors of survival among hospitalized paediatric patients developing cardiac arrest, Pondicherry. The study concluded that in pediatric CPR prevalence of survival is absolutely

excellent. Independent association between many parameters and hospital mortality is established. Subsequent research should focus on whether each of these association establish as cause and effect in future. In pediatric cardiac arrest clinical epidemiologist determining the efficiency of present-day interventions like therapeutic hypothermia is crucial to recognize these associations in their research methodology.<sup>18</sup> A similar cross-sectional study was conducted to assess basic life support (BLS) knowledge and attitudes among school teachers in India. The results showed that although more than half of the surveyed teachers were aware of the term BLS, only 7 percent were trained in resuscitation.<sup>19</sup> A similar study was conducted to know the prevalence and death caused by cardiac arrest in Sweden. The survival rate after bystander CPR was 2.6-fold higher than the rate for those where no treatment was given until the ambulance arrived.<sup>20</sup> A similar prospective descriptive study was conducted to identify underlying aetiology, precipitating factors, the outcome in terms of survival, and the predictors of survival among hospitalized paediatric patients developing cardiac arrest. The study concluded that in paediatric CPR prevalence of survival is absolutely excellent. Independent association between many parameters and hospital mortality is established. Subsequent research should focus on whether each of these association establish as cause and effect in future<sup>21</sup>

A similar Quasi experimental study was conducted to evaluate the effectiveness of training of trainers (TOT) on Basic Life Support training by comparing the pretest and post-tests of group I and Group II with regard to Knowledge on life saving skills, psychomotor skills in Life Saving, Prosocial Behaviour and Preparedness. The results showed that there was a significant improvement in life saving skills of public.<sup>22</sup> A similar longitudinal study was conducted to investigate whether gradual changes in lifestyle affect the cardiovascular health and its associated risk factors among the adult Toto males and females in Toto of West Bengal, India. the prevalence increased to an alarming high of 26.3percent in males (n=108) and 18.2percent (n=97) in females.<sup>23</sup>

## Conclusion and Recommendation:

After obtaining the results of the present study the researcher noticed that positive correlation between the pretest and post-test values is found statistically significant. there is an improvement in knowledge on basic life support strategies among physical education



students after the administration of video-assisted teaching. Hence, education programme on basic life support strategies may be actively initiated by B.P.Ed. teachers for all school children and teachers to save many lives. A similar study can be replicated in a large sample, there by finding can be generalized. The same study can be done with control group. A similar study can be conducted with post-test after 1 month, 6month, one year interval to evaluate the retention of knowledge and skill. A similar study can be conducted for community members.

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