IJSN

Indian Journal of Surgical Nursing

Editor-in-Chief
Pramilaa R.

Editorial Office
Red Flower Publication Pvt. Ltd.
48/41-42, DSIDC, Pocket-II
Mayur Vihar Phase-I, Delhi - 110 091(India)
Phone: 91-11-22754205, Fax: 91-11-22754205
E-mail: info@rfppl.co.in
Website: www.rfppl.co.in

RED FLOWER PUBLICATION PVT. LTD.

Managing Editor
A. Lal

Publication Editor
Dinesh Kumar. Kashyap, Manoj Kumar Singh

Indian Journal of Surgical Nursing (pISSN: 2277-467X; eISSN: 2455-5509) is the professional, peer-reviewed journal for nurses in surgical nursing practice. Written by and for surgical nurses, the journal features clinical articles covering a wide variety of surgical procedures. The articles are including patient education techniques and research findings in all issues of **IJSN**. **IJSN** is committed to the advancement of adult health/medical-surgical nursing practice. **IJSN** supports adult health/medical-surgical nurses as they strive for excellence in patient care, private practice, and outpatient health care settings in different types of locations in the world.

Subscription rates worldwide: Individuals (annual) - Contact us; Institutional (annual)- Rs.5000/USD500. Single issue Rs.1667/USD167. Payment methods: By Demand Draft/cheque should be in the name of **Red Flower Publication Pvt. Ltd**. payable at Delhi. By Bank Transfer/TT: **Bank name:** Bank of India, **IFSC Code:** BKID0006043, **Swift Code:** BKIDINBBDOS, **Account Name: Red Flower Publication Pvt. Ltd.,** Account Number: 604320110000467, Branch: Mayur Vihar Phase-I, Delhi – 110 091 (India) or you can log on to www.rfppl.co.in.

Printed at Saujanya Printing Press, D-47, Okhla Industrial Area, Phase-1, New Delhi - 110 020

Subscription Form

I want to renew/subscribe international class journal **"Indian Journal of Surgical Nursing"** of Red Flower Publication Pvt. Ltd.

Subscription Rates:
• Institutional: INR5000/USD500
• Individual: Contact us

Name and complete address (in capitals):

Payment detail:
Demand Draft No.
Date of DD
Amount paid Rs./USD

1. Advance payment required by Demand Draft payable to Red Flower Publicaion Pvt. Ltd. payable at Delhi.
2. Cancellation not allowed except for duplicate payment.
3. Agents allowed 10% discount.
4. Claim must be made within six months from issue date.

Mail all orders to
Red Flower Publication Pvt. Ltd.
48/41-42, DSIDC, Pocket-II
Mayur Vihar Phase-I
Delhi - 110 091(India)
Phone: 91-11-45796900, 22754205, 22756995, Fax: 91-11-22754205
E-mail: sales@rfppl.co.in, customer.rfp@gmail.com
Website: www.rfppl.co.in

Indian Journal of Surgical Nursing

IJSN

May - August 2016
Volume 5 Number 2

Articles

Indexing information page of Index Copernicus

DOI: http://dx.doi.org/10.21088/ijsn.2277.467X.5216.1

IJSN
Volume 5, Number 2

A Study to Assess the Effectiveness of Spirometry Exercise on Specific Pulmonary Parameters of Patients with Respiratory Conditions

Amol C. Temkar

Abstract

Background: Those with lung diseases know too well how hard the simple act of breathing can become. The good news is that you can do something to help your body breath more easily. Choosing the right food, exercising and breathing exercises are effective ways to increase lung capacity. One of the very effective way to improve lung function is by using an incentive spirometer exercise. An incentive spirometer measures and improves lung function. *Aims and Objectives:* An experimental randomized block one group pre-test post test design study was conducted. "A study to assess the effectiveness of spirometry exercise on specific pulmonary parameters of patients with respiratory conditions admitted in selected wards of Dr. Vikhe Patil memorial hospital Ahmednagar". The data was collected by using modified clinical proforma with non probability purposive sampling technique. The results were analyzed and interpreted using descriptive, inferential statistics and Paired 't' test. *Results*: The study findings revealed that the average mean of the post-test experimental group was 0.731, while post-test control group was 0.481, the average SD of post test experimental group was 0.228, and post-test control group was 0.174. The obtained 't' value was 7.02 which is greater than the table value, therefore, the spirometry exercise was found to be effective at 5% level and significant association was found between the post-test score and the demographic variables. *Conclusion:* Incentive spirometry exercises are effective in coping with respiratory disorders. Using an incentive spirometry exercise can help the patient to practice taking deep breaths, which can help to open airways, prevent fluid or mucus from building up in the lungs and make it easier to breath.

Keywords: Spirometry Exercise; Pulmonary Parameters; Respiratory Conditions.

Introduction

Health is an invaluable part of the human beings life. Without it, people can become uninspired, de-motivated and unable to thrive for success. Good health favors personal efficiency and contributes to an individual's lifespan and has much to do with happiness and success. But diseases affects people not only physically, but also emotionally and socially. Diseases can alter one's perspective of life. It can be acute or chronic.

The most common chronic respiratory diseases prevailing throughout the world are chronic obstructive pulmonary disease, asthma etc. COPD is a chronic lung disease which refers to several disorders that affect the movement of air in and out of the lungs. Asthma is a common chronic inflammatory disease of the airways characterized by variable and recurring symptoms, reversible airflow obstruction and bronchospasm. Common symptoms include wheezing, coughing, chest tightness and shortness of breath.

Promotion of exercises is found to be the good conservative management for patient with many respiratory diseases, because breathing exercise can improve lung functions as well as can strengthen the respiratory muscles, even when the lungs are diseased. The proposed rationale for using incentive spirometry exercise is to prolong exhalation and thereby improve pulmonary functions.

Regular and frequent exercise under supervision can deal with pulmonary functions to a larger extent. spirometry exercises are proved in decreasing breathlessness in people suffering from chronic lung disease can increase exercise tolerance and strengthens thoracic muscles.

Author Affiliation: Lecturer, Medical - Surgical Nursing, College of Nursing, P.D.V.V.P.F's, Ahmednagar, Maharashtra.

Correspondance: Amol C. Temkar, Lecturer, Medical - Surgical Nursing, College of Nursing, P.D.V.V.P.F's, Ahmednagar, Maharashtra.
E-mail: amoltemkar09@gmail.com

Harry B. John (2011) conducted a study on exercise training, a therapy for patients with COPD. During the study 11 patients with COPD underwent an 18 week program of exercise training with subjective and objective improvements. Increased activity of daily living were noted and analysis of exercise diaries. The result were resting and exercise heart rate and breathlessness decreased, and maximum tolerated workload increased significantly in all patients.

A study was conducted by Rosa G, Casan P and Belde J (2000) on pulmonary rehabilitation in patients with COPD. 40 patients with stable COPD having severe airflow obstruction was included. Rehabilitation included walking, breathing exercises, controlled coughing and changes in life style actives. Exercise of 30 minute duration was performed at home twice daily for 4 weeks supervision. Six minute walking distance, FEV1 (forced expiratory volume in first second of expiration) and various indices of chronic respiratory disease questionnaire were measured in samples before and after intervention. The study concluded that domiciliary pulmonary rehabilitation for 4 weeks resulted in significant improvement in the quality of life and exercise tolerance with an improvement in FEV1.

Asthma on the other hand is a chronic lung disease that inflames and narrows the airways. Asthma causes recurring periods of wheezing, chest tightness, shortness of breath and coughing. The coughing often occurs at night or early in the morning, which also can be minimized with incentive spirometry exercises.

Many studies proved that, Spirometry exercises increases inspiratory volume, maintains alveolar ventilation, increases vital capacity and inspiratory reserve volume and even prevent atelectasis. Many articles say that spirometry exercise can increase pulmonary parameters.

Hence, the investigator felt the need to conduct a study on effectiveness of spirometry exercise on patient with these selected respiratory parameters.

Material and Methods

An experimental randomized block research design with quantitative research approach in which two groups pre-test, post-test design was used for this study. 30 patients admitted in Dr. Vikhe Patil Memorial Hospital Ahmednagar with COPD and Asthma were selected by non-probability purposive sampling technique for data collection. Before commencement of the study, ethical approval was obtained from the Institutional Ethical Committee, and official permission was received from the authority.

Tool was composed of two sections. In demographic variables comprise of age, gender, diagnosis, history of illness, history of spirometer use, occupation, habit and duration of smoking etc. The clinical proforma includes chest expansion, breath holding time, minute volume, vital capacity, inspiratory reserve volume, residual volume, respiratory rate, expiratory reserve volume and inspiratory capacity.

The purpose of the study was informed and explained to the participants and those who voluntarily agreed to participate in the study and gave an informed consent. Assessment of effectiveness of spirometry exercise was done by administering it to the sample and collecting pre-test and post-test scores. The data collected was recorded systematically on each subject and was organized in a way that facilitates for data analysis. Descriptive and inferential statistics was used to analyze the data. Demographic proforma was analyzed by using frequency and percentage. Effectiveness of spirometry exercise was assessed by frequency, percentage, mean and standard deviation. Chi square test was used to find the association between post test score with selected demographic variables.

Results

The study findings shows that the distribution of pre-interventional mean, SD and mean percentage of pre-test score of experimental group was 0.45 and of control group was 0.46. The post-interventional mean post-test score of control group was 0.39 while experimental group had 0.73. Therefore, mean difference of the experimental group was 0.28 and the mean difference of control group was -0.07, which proves effectiveness of spirometry exercise in improving respiratory parameters.

Particulars	Pre - Test		Post - Test		Mean Difference		t- Value
	EXPT	CTRL	EXPT	CTRL	EXPT	CTRL	
Mean	0.45	0.46	0.73	0.39	0.28	-0.07	7.02

There was significant association found between the post-test score and the demographic variables. The obtained 't' value for Bonferroni multiple comparison test is 7.02, which is greater than the table value. Therefore, the spirometry exercise was found to be effective at 5% level and revealed that significant association was found between the post-test score and the demographic variables.

Conclusion

Spirometry remains essential for the diagnosis and monitoring of both COPD and Asthma. The use of spirometry in patients at risk for the development of both diseases or with respiratory symptoms could help to detect and treat the cases at an early stage when intervention may prevent further deterioration. Because of the reversible component of asthma and COPD, the use of peak flowmeters with respiratory exercise to determine airflow on a continued basis is practical and seems to have resulted in improving outcomes. As the findings of the study reveals that the use of spirometry exercise were significantly effective in improving respiratory parameters in patients suffering with respiratory disorders. The nursing adequate knowledge regarding the use of spirometry for exercise will contribute towards positive improvement in patients condition who are suffering with respiratory disorders.

References

1. Park K. Textbook of preventive and social medicine,17th Edition, Jabalpur, Banarsidasbhanot publishers; 273-94.
2. WHO. Chronic Obstructive Pulmonary Disease: Chronic Respiratory Disease, Geneva; 2008. Available from: URL :http//www.who.co.in
3. Harry B, John F, Robert F, Exercise therapy for patient with COPD. Chest. 2011; 116-121.
4. Rosa G, Casan P, Belde J. Pulmonary rehabilitation in patients with COPD- a randomized trial. chest. 2000; 117(4):976-983.
5. Naidu B, Steyn R, Bishay E, Epub Thorax. 2013 Jun; 68(6): 580-5.
6. Dr. M Joshi MD, and research associates ,Pulmonary functions and effect of incentive spirometry.

Indian Journal of Surgical Nursing

Library Recommendation Form

If you would like to recommend this journal to your library, simply complete the form below and return it to us. Please type or print the information clearly. We will forward a sample copy to your library, along with this recommendation card.

Please send a sample copy to:

Name of Librarian

Name of Library

Address of Library

Recommended by:

Your Name/ Title

Department

Address

Dear Librarian,

I would like to recommend that your library subscribe to the **Indian Journal of Surgical Nursing**. I believe the major future uses of the journal for your library would provide:

1. useful information for members of my specialty.
2. an excellent research aid.
3. an invaluable student resource.

I have a personal subscription and understand and appreciate the value an institutional subscription would mean to our staff.

Should the journal you're reading right now be a part of your University or institution's library? To have a free sample sent to your librarian, simply fill out and mail this today!

Stock Manager

Red Flower Publication Pvt. Ltd.

48/41-42, DSIDC, Pocket-II

Mayur Vihar Phase-I

Delhi - 110 091(India)

Phone: 91-11-45796900, 22754205, 22756995, Fax: 91-11-22754205

E-mail: sales@rfppl.co.in, customer.rfp@gmail.com

DOI: http://dx.doi.org/10.21088/ijsn.2277.467X.5216.2

IJSN
Volume 5, Number 2

Effectiveness of Structured Teaching Program on Knowledge Regarding Risk Factors of Coronary Artery Disease and Its Prevention among Patients with Hypertension

M. Malarvizhi*, Vimala Mary, Vijayasamundeeswari*, Bhavani*****

Abstract

Coronary artery disease is affecting Indians 5-10 years earlier than other communities. Indians also show higher incidence of hospitalization, morbidity, and mortality than other ethnic groups. WHO estimated that, over the next 10 years, India will lose 237 billion US Dollar due to heart disease, stroke and diabetes. Hence, the investigator evaluated the effectiveness of structured teaching program by comparing pre test and post test scores. The findings revealed that in the post test, more than half of the adults 71.67% had attained moderately adequate knowledge, 28.33% had attained adequate knowledge and no one had inadequate knowledge. So, its Nurses role to enhance the knowledge of the patient about hypertension and its risk factors in preventing from further complications.

Keywords: Hypertension; Coronary Artery Disease; Knowledge; Structured Teaching.

Introduction

Hypertension remains standard risk factors associated with coronary artery disease. Hypertension is increasing in urban population, as compared to rural population. In metropolitan cities diabetes mellitus is about 20% in middle age and additional 20% may be having impaired glucose tolerance, even moderate elevation of glucose in Indians is associated with increased risk of coronary artery disease. In contrast to decreasing mean cholesterol levels in the USA, the mean serum cholesterol level in urban Indians rising in Delhi, the mean serum cholesterol level as rising from 160mg/dl in 1982 to 199mg/dl in 1994. Indians with lower levels of serum cholesterol have higher risk of coronary artery disease.

Coronary artery disease is a disease of the artery caused by the accumulation of atheromatous plaques within the walls of the arteries that supply the myocardium. Coronary artery disease present before the age of 55 in men and 65 in women. A healthy lifestyle can help prevent coronary artery disease and help keep it from progressing. A heart-healthy lifestyle includes eating right, regular exercise, maintaining a healthy weight, no smoking, moderate drinking, no recreational drugs, controlling hypertension, and managing stress. Cardiac rehabilitation programs are excellent to help prevent recurring coronary problems for people who are at risk and who have had coronary events and procedures.

Need for the Study

According to World Health Organization (WHO) bulletins, 1.2 million Indians died from heart disease in 1990 and it predicts that by 2010, 100 million Indians will have heart disease (25% of all cardiac patients globally) and by 2020, India will supersede all other nations in terms of coronary artery disease prevalence.

The union budget presented by the Finance Minister of India, allocated 4 million U.S. dollar to the National Program for the prevention of cardiovascular disease, diabetes and stroke. If these looming threats of escalating epidemics of diabetes and cardiovascular disease are neglected, the adverse effect on development are likely to be unaffordable

Author Affiliation: *Lecturer, Faculty of Nursing, Sri Ramachandra University. **Assistant Professor, St. John's College of Nursing, Bangalore. ***Research Scholar, Sri Ramachandra University, Chennai.

Correspondance: M. Malarvizhi, Lecturer, Faculty of Nursing, Sri Ramachandra University, No.1, Ramachandra Nagar, Porur, Chennai, Tamil Nadu 600116.
E-mail: malarvizhi23@gmail.com

for a country that is now on the fast track of economic development and aspire to be a major economic power in the 21st century.

It has been proved effective, that a structured teaching program conducted on a sample of 36 coronary artery disease patients for a period spanning around 12 weeks found to raise the awareness of patient's knowledge regarding the need for adherence to prescribed diets which in turn helped them to lower their cholesterol level and their risk factor level was reduced.

All these findings led the investigator to a conclusion that the nurses are in the key position to provide persons with necessary guidance, help them on the emotionally fatigued time, to bring them back into the normal stream of life.

Objectives of the Study

1. To assess the level of knowledge regarding risk factors of coronary artery disease and its prevention among patients with hypertension
2. To evaluate the effectiveness of structured teaching program by comparing pre test and post test scores.
3. To determine the association between knowledge regarding risk factors of coronary artery disease and its prevention among adults with selected demographic variables.

Review of Literature

Ashfaq F, Goel PK, Sethi R, Khan MI,et al. (2013). A cross sectional study was conducted on North Indian patients. Aim to evaluate lipoprotein (a) levels in relation to severity of coronary artery disease. A total of 360 patients presenting with chest pain selected, multivariate analysis was done. Result shows that lipoprotein (a) 21.0 mg/dL is associated with the presence of coronary lesions (P = 0.0001). A highly significant difference in lipoprotein (a) levels was observed between normal coronaries vs. single-vessel disease, double-and triple-vessel disease (P < 0.0001). Body mass index (BMI) was significantly raised in coronary artery disease group compared to normal coronary. Study concludes that lipoprotein (a) was considered an independent predictor for severity of CAD and lipoprotein (a) levels 21.0 mg/dL are associated with severe patterns of coronary atherosclerosis.

Murthy PD, Prasad KT, Gopal PV, Rao KV, Rao RM.(2012). A cross sectional community based study was conducted on prevalence of coronary artery disease and its risk factors in an urban population in Andhra Pradesh. A total of 534 people selected, multiple logistic regression analysis was done. Result shows that. Prevalence of CAD increased with an increase in total cholesterol (P < 0.01), serum triglycerides (P < 0.01) low density lipoprotein (LDL) cholesterol (P < 0.01) and total cholesterol/high density lipoprotein cholesterol ratio (P < 0.01). Study conclude that prevalence of CAD in urban Andhra Pradesh is alarmingly high as observed in other parts of India and urgent steps are to be taken to adopt life style changes to control risk factors.

Driscol J. M, Shavel R, Cushion C J. (2007). experimental study was conducted on a patient population of 100 for finding out the effective patient education system and the conclusion of the experimental study was structured teaching program was found to be effective and the patient population to be educated must not exceed a particular limit of more than 10-15 in order to reduce the chance of decreased attention to the patient during the education process.

Methodology

The research design chosen for the study was descriptive in nature with 60 patients. The target population of study includes both male and female patients who are admitted in medical ward, Sri Ramachandra hospital. The samples were selected through convenience sampling technique.

Results

Table 1: Frequency and Percentage distribution of patients with hypertension on Knowledge regarding Risk Factors of Coronary Artery Disease and its Prevention (N=60)

Age in Years	Frequency	Percentage
a. 26-35years	13	21.67
b. 36-45years	24	40.00
c. 46- 55years	16	26.67
d. 56-65years	7	11.67
e. 66 and above	0	0.00
Gender		
a. Male	36	60.00

b. Female	24	40.00
Educational status		
a. Illiterate	0	0.00
b. Primary	16	26.67
c. Secondary	14	23.33
d. Higher secondary	20	33.33
e. Graduate and above	10	16.67
Habits		
a. Smoking	24	40.00
b. Alcoholism	14	23.33
c. Tobacco Chewing	5	8.33
d. None	17	28.33
Food Pattern		
a. Vegetarian	23	38.33
b. Non-Vegetarian	37	61.67
Previous knowledge regarding risk factors of coronary artery disease and its prevention		
a. Yes	18	30.00
b. No	42	70.00
Source of Information		
a. Family	9	15.00
b. Friends	13	21.67
c. Mass Media	28	46.67
d. Others	10	16.67

Table 2: Frequency and Percentage distribution of level of knowledge on Risk Factors of Coronary Artery Disease and its Prevention (N=60)

Level of knowledge	Pre test		Post test	
	No	%	No	%
Inadequate (<50%)	46	76.67	0	0
Moderate (50--75%)	14	23.33	43	71.67
Adequate (>75%)	0	0	17	28.33

The above tablecompares the pre and post test knowledge of adults regarding risk factors of coronary artery disease and its prevention. The frequency and percentage distribution of knowledge on pre test were, more than half of adults 76.67% had inadequate knowledge, 23.33% had moderately adequate and no one had adequate knowledge. And in post test, of the adults 71.67% had attained moderately adequate knowledge, 28.33% had attained adequate knowledge and no one had inadequate knowledge.

Discussion

Major Findings in the Study

According to Age

21.67% were belongs to the age of 26-35yrs, 40% were within the age group of 36-45yrs, 26.67% of adults were 46-55yrs,11.67% of adults were 56-65yrs.

According to Gender

60% were males and the rest 40 % were females.

According to the Religion

56.67% were Hindu, 26.67% were Muslims and 16.67% were Christian.

Regarding the Economic Status

8.33% were having below 2000 rupees, 16.67% were with in 2001 and 4000 rupees, 33.33% were with in 4001 and 5000 rupees and 41.67% were having the family income of above 5001 rupees.

On the Basis of Educational Status

0% were illiterate, 26.67% have attended primary schools, 23.33% have their high school certificate, 33.33% have higher secondary level of education and only 16.67% were graduates and above.

According to Occupation of Adults

8.33% were Unemployed, 25% were Government employees, 28.33% were private employees and 11.67% of the adults were coolies. Meanwhile, 26.67% of adults are working in other sectors.

Regarding Habits of Adults

40% were smoker, 23.33% were alcoholics, 8.33%

were tobacco chewers, and remaining 28.33% were none of the habits.

According the Food Pattern of Adults

38.33% were Vegetarian and 61.67% were Non-vegetarian.

Regarding Previous Knowledge

30% of adults had some awareness regarding risk factors of coronary artery disease and its prevention, and remaining 70% did not attend any classes regarding risk factors of coronary artery disease and its prevention.

Regarding the Source of Information

15% were got the information from family, 21.67% attained information from friends, and 46.67% of adults got information from mass media remaining 16.67% got information from other sources.

Pre Test Knowledge Regarding Risk Factors of Coronary Artery Disease and its Prevention

The levels of knowledge were seen into 3categories, inadequate, moderate and adequate. In pre test more than two third of the adults 76.67% had inadequate knowledge, 23.33% had moderately adequate knowledge and no one had adequate knowledge.

Post Test Knowledge Regarding Risk Factors of Coronary Artery Disease and its Prevention

In the post test, more than half of the adults 71.67% had attained moderately adequate knowledge, 28.33% had attained adequate knowledge and no one had inadequate knowledge.

Evaluating the Effectiveness of STP Regarding Risk Factors of Coronary Artery Disease and its Prevention

Therefore t value is found to be extremely statistically significant. And the research hypothesis stated that there will be significant difference between the pre test and post test level of knowledge of adults regarding risk factors of coronary artery disease and its preventionwas accepted. This supports that the STP was effective

Association of Knowledge Regardingrisk Factors of Coronary Artery Disease and its Prevention and Selected Socio-Demographic Variables

The results of Chi-square analysis indicate that there was significant association between knowledge with age of the adult,gender,religion, food pattern, previous knowledge of adult regarding risk factors of coronary artery disease and its prevention. The rest of the socio demographic variables were not significantly associated with knowledge regarding risk factors of coronary artery disease and its prevention.

Conclusion

Coronary artery disease is the most common form of heart disease in the Western world. Prevention centers on the modifiable risk factors, which include decreasing cholesterol levels, addressing obesity and hypertension, avoiding a sedentary lifestyle, making healthy dietary choices, and stopping smoking. There is some evidence that lowering homocysteine levels may contribute to more heart attacks. In diabetes mellitus, there is little evidence that very tight blood sugar control actually improves cardiac risk although improved sugar control appears to decrease other undesirable problems like kidney failure and blindness. Some recommend a diet rich in omega-3 fatty acids and vitamin C. The World Health Organization (WHO) recommends "low to moderate alcohol intake" to reduce risk of coronary artery disease although this remains without scientific cause and effect proof.

A healthy lifestyle can help prevent coronary artery disease and help keep it from progressing. A heart-healthy lifestyle includes eating right, regular exercise, maintaining a healthy weight, no smoking, moderate drinking, no recreational drugs, controlling hypertension, and managing stress. Cardiac rehabilitation programs are excellent to help prevent recurring coronary problems for people who are at risk and who have had coronary events and procedures.

It has been proved effective, that a structured teaching program conducted on a sample of 36 coronary artery disease patients for a period spanning around 12 weeks found to raise the awareness of patients knowledge regarding the need for adherence to prescribed diets which in turn helped them to lower their cholesterol level and their risk factor level was reduced.

All these findings led the investigator to a conclusion that the nurses are in the key position to provide persons with necessary guidance, help them on the emotionally fatigued time, to bring them back into the normal stream of life.

Reference

1. Ashfaq F, Goel PK, Sethi R, Khan MI et al. Lipoprotein (a) levels in relation to severity of coronary artery disease in north Indian patients. Journal on Heart Views. 2013 Jan; 14(1): 12-6.
2. Murthy PD, Prasad KT, Gopal PV, Rao KV, Rao RM.A survey for prevalence of coronary artery disease and its risk factors in an urban population in Andhra Pradesh. Journal Association Physicians India. 2012 Mar; 60: 17-20.
3. Driscol JM, Shave.l R, Cushion CJ. A National Health Service Hospitals Cardiac Rehabilitation Program Blackwell Synergy. Journal of Clinical Nursing. 2007 Jun; 5(3): 37-43.

Subscription Form

I want to renew/subscribe international class journal **"Indian Journal of Surgical Nursing"** of Red Flower Publication Pvt. Ltd.

Subscription Rates:
• Institutional: INR5000/USD500
• Individual: Contact us

Name and complete address (in capitals):

Payment detail:
Demand Draft No.
Date of DD
Amount paid Rs./USD

1. Advance payment required by Demand Draft payable to Red Flower Publicaion Pvt. Ltd. payable at Delhi.
2. Cancellation not allowed except for duplicate payment.
3. Agents allowed 10% discount.
4. Claim must be made within six months from issue date.

Mail all orders to
Red Flower Publication Pvt. Ltd.
48/41-42, DSIDC, Pocket-II
Mayur Vihar Phase-I
Delhi - 110 091(India)
Phone: 91-11-45796900, 22754205, 22756995, Fax: 91-11-22754205
E-mail: sales@rfppl.co.in, customer.rfp@gmail.com
Website: www.rfppl.co.in

DOI: http://dx.doi.org/10.21088/ijsn.2277.467X.5216.3

Andragogy versus Pedagogy in Nursing Education

IJSN
Volume 5, Number 2

S. Sridevy

Abstract

Today's Traditional clinical learning driven by competitive placement opportunities and challenges. Teaching Faculty are not prepared to utilize adult teaching strategies and resort to pedagogical methods using lecture, memorization,quizzes, and examinations. According to nursing education organizations, faculty should be teaching with more interactive, student-centered, adult methods.The nurse educators are frequently not prepared to use timely teaching strategies and may resort to teaching nursing students the way they were taught - using methods such as lecture, memorization, quizzes, and examinations. Andragogy is an adult focused teaching approach while Pedagogy is a child focused teaching approach.This short communication attempts to bring a glimpse on modern adult education strategies needed for the present day nurse educators.

Keywords: Andragogy; Pedagogy; Adult Learning.

There is little orientation or academic preparation provided to nurses who choose the role of a nurse educator. The use of andragogical methods in the teaching of adults has been documented by several adult education theorists and philosophers Thus bridging the gap between theory and practice, while providing nurse educators needed tools to be effective in the educational environment. Currently,adult education strategies for nurse educators are available in plenty.

Pedagogy

- Pedagogue is referred to as "a schoolteacher. One who instructs in a pedantic or dogmatic manner". In the pedagogic model, teachers assume responsibility for making decisions about what is learned, and how and when something will be learned.
- Pedagogy is a term derived from the Greek words paid (meaning "child") and agogus (meaning "leading"). So "pedagogy" means, literally, the art and science of teaching children (Knowles, 1973) It evolved in the monastic schools of Europe in 7th- 12th centuries. It is concerned teaching young children relatively simple skills mostly reading and writing.
- Adult education began to be organized systematically during the 1920s.Teachers of adults began experiencing several problems with the pedagogical model. Pedagogy was based on the premise that the purpose of education was the transmittal of knowledge and skills.Adult learners seemed to feel this was insufficient and frequently resisted teaching strategies that pedagogy prescribed, such as lectures, assigned readings, quizzes, note memorizing, and examinations. Dropout rates were high. Teachers also noted that many of the assumptions about the characteristics of learners in the pedagogic model did not fit their adult students. Then Andragogy came into existence.

Andragogy

The term andragogy was coined in 1833 by the German teacher Alexander Kapp. Andragogy is based on the Greek word aner with the stem andra meaning "man, not boy" or adult, and agogus meaning "leader of." Andragogy was first introduced to the United States in 1927 by Martha Anderson and Eduard Linderman, but they did not attempt to develop the concept . Andragogy is an adult focused teaching approach while

Author Affiliation: Assistant Professor, College of Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Pondicherry.

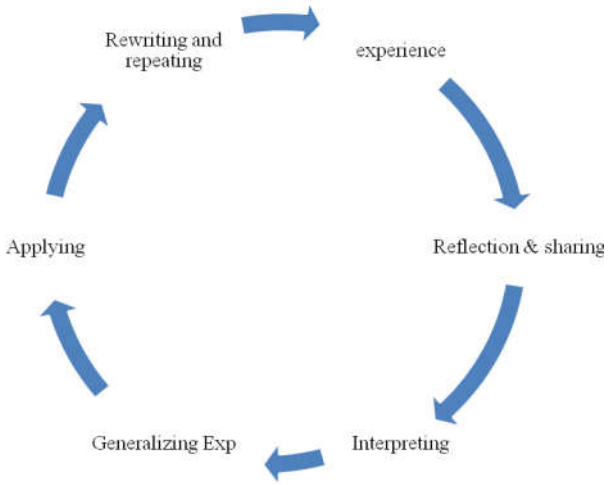
Correspondance: S. Sridevy, Assistant Professor, College of Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Pondicherry.
E-mail: dr.s.sridevy@gmail.com

Pedagogy is a child focused teaching approach.

By definition, an adult is someone who has achieved the self concept of being responsible for their own life. The goal of adult education should be self-actualization; thus, the learning process should involve the whole emotional, psychological, and intellectual being. The mission of adult educators is to assist adults to develop their full potential, and andragogy is the teaching methodology used to achieve this end.

Basically adults are Autonomous and Self - Directed.They need to be free to direct themselves. Trainer must actively involve adult participants in the learning process and serve as facilitators for them.

Malcolm Knowles (1970) defines andragogy as the art and science of helping adults learn in contrast with pedagogy, which concerns helping children learn.



Need for Andragogy

- Adults need to know why they need to learn something. They need to learn experientially. They approach learning as a problem solving. They learn best when the topic is of immediate value. They need to be involved in the planning & evaluation of their instructions. Adults are most interested in learning subjects that have immediate relevance to their job or personal life. Adult learning is a problem centered rather than content oriented.
- In the minds of many around the adult education field, andragogy and the name of Malcolm Knowles have become inextricably linked. For Knowles, andragogy is premised on at least four crucial assumptions about the characteristics of adult learners that are different from the assumptions about child learners on which traditional pedagogy is premised. A fifth was added later.
- Self-concept: As a person matures his self concept moves from one of being a dependent personality toward one of being a self-directed human being
- Experience: As a person matures he accumulates a growing reservoir of experience that becomes an increasing resource for learning.
- Readiness to learn. As a person matures his readiness to learn becomes oriented increasingly to the developmental tasks of his social roles.
- Orientation to learning. As a person matures his time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject-centeredness to one of problem centeredness.
- Motivation to learn: As a person matures the motivation to learn is internal
- The characteristics of Adult Learners are :
- They are Problem-centered, Results-oriented, Self-directed, Often skeptical about new information, Seek relevancy and Accepts responsibility for own learning.
- The Characteristics of Youth Learners are:
- They are Subject-oriented,Future-oriented,Often depend on adults for direction,More accepting and Often needs training for unclear future.

Differences between the Traditional Pedagogy Versus the Modern Practice of Andragogy

Topic	Traditional Pedagogy	Andragogy
Perception of Nature of Work	Necessary evil	Vehicle for self-expression
Organization Design	Bureaucracy	Reduced hierarchy, team based high performance
Organization Goals	Stable, slow-changing, highly structured performance	Dynamic, fast-changing, continuous improvement
Organization Climate	Authority-oriented Formal/closed Competitive	Respect-oriented Informal/open Collaborative
Diagnosis of Needs	Supervisor	Mutual/self-diagnosis
Purpose of Intervention	Orientation,	Change,

	Standardization, Instruction (acquisition of existing knowledge)	Development, Creation of new knowledge
Employee Competence	Below minimum acceptable performance	Above minimum acceptable Performance
Learners/employees	Dependent	Independent
Subject matter	One right way	Many ways
Motivation to learn, change, or improve	External, dictated by others	Internal, response to personal/career needs
Role of experience	Unimportant or even discounted	A rich resource that can be the basis for learning, change or improvement Must be integrated
Learner/employee self concept	Need outside direction	Capable of self-direction
Learning orientation	Subject-centered Logic-oriented	Life/career-centered Process centered
Objective	Minimum requirements	Self-betterment
Identification of Need	Mandate from above	Choice of learning motivated by life enhancement or performance improvement expectation
Instructional Design	Transmission of prescribed subject matter through lectures, Socratic dialogue, and memorization	Subject matter is life centered, task-centered, problem centered and learning is facilitated, self-reflective and transformative
Learning Process	Passive learning Instruction, memorization, modeling, demonstration, coaching, etc.	Active Learning Critical and reflective thinking, shared visioning. Simulations throu team learning, case studies, role play etc. On the job experience, new information, interpretation, practic adaptation, and integration. Experie learning such as creative thinking improvisation, ropes courses, etc

To produce nurses prepared to practice in reformed health care environments, we can no longer educate our nursing students using the traditional educational practices that we have long embraced. There exists no substantive evidence to suggest that our traditional means of clinical education in nursing and other health professions are particularly effective in developing clinical reasoning, so it is an opportune time to closely examine our educational practices and create new learning paradigms that are grounded in evidence.

References

1. American Association of Colleges of Nursing. Essentials of baccalaureate education for professional nursing practice. Faculty Tool Kit. *American Association of Colleges of Nursing, 2008.*
2. Bartels, J. Clinical supervision: It's place within quality agenda. Nursing Management. 2007; 7: 30-33.
3. Knowles, M. Using learning contracts. San Francisco, CA: Jossey-Bass Inc, 1986.
4. Sue E. McKee and Cynthia Billman. "Andragogical Methods Applied to Nursing Education: Adult education for adult students" Midwest Research-to-Practice Conference in Adult, Continuing, Community and Extension Education, Lindenwood University, St. Charles, MO. 2011.
5. www.ocne.org

Instructions to Authors

Submission to the journal must comply with the Guidelines for Authors.

Non-compliant submission will be returned to the author for correction.

To access the online submission system and for the most up-to-date version of the Guide for Authors please visit:

http://www.rfppl.co.in

Technical problems or general questions on publishing with IJSN are supported by Red Flower Publication Pvt. Ltd's Author Support team (http://www.rfppl.co.in)

Alternatively, please contact the Journal's Editorial Office for further assistance.

Editorial Manager
Red Flower Publication Pvt. Ltd.
48/41-42, DSIDC, Pocket-II
Mayur Vihar Phase-I
Delhi - 110 091(India)
Phone: 91-11-22754205, 45796900, 22756995, Fax: 91-11-22754205
author@rfppl.co.in
author.rfp@gmail.com

DOI: http://dx.doi.org/10.21088/ijsn.2277.467X.5216.4

IJSN
Volume 5, Number 2

Emergency Cardiac Drugs: Essential Facts for Med-Surg Nurses

Neethu Jose

Abstract

In the hospital setting, emergencies typically occur in emergency departments (EDS) and intensive care units (ICUS). But many also take place in progressive care units or general nursing units. And when they do, they can cause marked anxiety for nurses especially those unfamiliar or inexperienced with the drugs used in these emergencies.

Keywords: Cardiology; Drugs; Emergency; ACLS.

Introduction

Under normal circumstances, a registered nurse (RN) needs a physician's order to administer medications. In emergencies, RNS with advanced cardiac life support (ACLS) certification can give selected drugs based on standing orders, relying on algorithms that outline care for certain emergencies. Wherever possible, nurses should strive to maintain proficiency in basic life support (BLS), as the latest research shows the importance of effective cardio pulmonary resuscitation. Generally, the goal of using emergency drugs is to prevent the patient from deteriorating to an arrest situation. This article helps nurses who don't work in ICUS or EDS to understand emergency drugs and their use.

Drugs for Acute Coronary Syndrome [2,4]

Acute coronary syndrome (ACS) refers to a spectrum of clinical mani festations associated with acute myocardial infarction and unstable angina. In ACS, a plaque in a coronary artery ruptures or becomes eroded, triggering the clotting cascade. A blood clot forms, occluding the artery and interrupting blood and oxygen flow to cardiac muscle. Many healthcare providers use the acronym MONA to help them remember the initial medical treatment options for a patient with ACS.

M: morphine

O: oxygen

N: nitroglycerin

A: aspirin.

But keep in mind that while MONA might be easy to remember, *the drugs aren't given in the MONA sequence. They're given in the order of OANM.*

Oxygen

Oxygen (O2) is given if the patient's O2 saturation level level is below 94%. The heart uses 70% to 75% of the oxygen it receives, compared to skeletal muscle, which uses roughly 20% to 25%.

Aspirin

The standard recommended aspirin dosage to treat ACS is 160 to 325 mg, given as chewable "baby" aspirin to speed absorption. Aspirin slows platelet aggregation, reducing the risk of further occlusion or re-occlusion of the coronary artery or a recurrent ischemic event.

Nitroglycerin

To help resolve chest pain from ACS, nitroglycerin 0.4 mg is given sublingually via a spray or rapidly dissolving tablet. If the first dose doesn't reduce chest pain, the dose can be repeated every 3 to 5 minutes for a total of three doses. A potent vasodilator,

Author Affiliation: Assistant Professor, Department of Medical Surgical Nursing, Jubilee Mission College of Nursing, Thrissur, Kerala.

Correspondance: Neethu Jose, Assistant Professor, Department of Medical Surgical Nursing, Jubilee Mission College of Nursing, Thrissur, Kerala 680005.
E-mail: agnesfeb9@gmail.com

nitroglycerin relaxes vascular smooth-muscle beds. It works well on coronary arteries, improving blood flow to ischemic areas. It also decreases myocardial oxygen consumption, allowing the heart to work with a lower oxygen demand. In peripheral vascular beds, nitroglycerin causes vasodilation and reduces preload and afterload, resulting in decreased cardiac workload. If chest pain recurs once the initial pain resolves or decreases, the patient may be placed on a continuous I.V. infusion of nitroglycerin. Because of the drug's vasodilatory effects, be sure to institute continuous blood-pressure monitoring

Morphine

If chest pain doesn't resolve with sublingual or I.V. nitroglycerin, morphine 2 to 4 mg may be given every 5 to 15 minutes via I.V. push. An opioid acting primarily on receptors that perceive pain, morphine also acts as a venodilator, reducing ventricular preload and cardiac oxygen requirements. As with nitroglycerin, the patient's blood pressure needs to be monitored continuously. If hypotension occurs, elevate the patient's legs, give I.V. fluids as ordered, and monitor for signs and symptoms of pulmonary congestion.

Other Medications for ACS [1,2,4]

Metoprolol may be used in the initial treatment of ACS. A cardio selective (beta1 receptor) drug, it's a beta adrenergic blocker that dilates peripheral vascular beds, in turn reducing blood pressure, decreasing cardiac workload, and lowering cardiac oxygen demands. It also may have a mild analgesic effect in ACS related chest pain. The patient's blood pressure must be monitored. A primary goal of ACS treatment is to minimize muscle cell damage, which necessitates restoring blood flow to cardiac muscle.

Drugs that may be used to reduce expansion of the arterial occlusion or restore blood flow to cardiac muscle include:

- Heparin or enoxaparin (a lowmolecular-weight heparin), which helps prevent the original arterial clot from expanding and allows it to break down on its own; as a result, the vessel opens and new clot formation is inhibited.
- Glycoprotein iib-iiia inhibitors, such as abciximab. These drugs bind to glycoprotein IIb-IIIa receptor sites on platelets, preventing further aggregation and stopping expansion of the original clot or formation of new clots
- Fibrinolytics, such as reteplase (Ret avase) and alteplase (Activase). These agents break down the original clot, opening the vessel for blood flow.

Drugs for Arrhythmias

Bradycardias and tachycardias commonly arise during medical emergencies. The primary goal of drug therapy for these arrhythmias is to return the heart rate and rhythm to normal, thereby maximizing cardiac pumping and restoring hemodynamic stability. To achieve this goal, anti arrhythmics are given to slow, speed, or block conduction of the heart's electrical impulses. A combination of drugs in the proper dosages may resolve bradycardias and tachycardias.

Intervening for Bradycardia

In bradycardia, the heart rate slows to a critical point and hemodynamic instability occurs. Usually, bradycardia is defined as a heart rate slower than 60 beats/minute (bpm). But in some patients, hemodynamic instability may occur at faster rates. This instability may manifest as dizziness, light-headedness, nausea, vomiting, hypotension, syncope, chest pain, and altered mental status. Atropine, epinephrine, and dopamine may be used to treat bradycardia, with dosages depending on the acuity and severity of hemodynamic instability. For symptomatic patients, the healthcare team must determine the cause of bradycardia. In many cases, bradycardia results from use of other drugs, specifically other antiarrhythmics —for instance, beta blockers and calcium channel blockers. So those drugs may need to be withheld temporarily until their effects wear off. Beta blockers reduce circulating catecholamine levels, decreasing both the heart rate and blood pressure. Typically, atropine is the drug of choice for symptomatic bradycardia. An anti cholinergic and potent belladonna alkaloid, it increases the heart rate, which improves hemodynamic stability. Epinephrine may be used as a secondary measure if atropine and temporary heart pacing don't improve hemodynamic stability. Among other actions, epinephrine stimulates beta1 receptors, causing cardiac stimulation, which in turn increases the heart rate. Dopamine also may be used to support hemodynamic status by correcting hypo tension. It enhances cardiac output, minimally increasing oxygen consumption and causing peripheral vasoconstriction. If your patient is receiving these I.V. drugs, be sure to monitor for extra vasation, which could lead to tissue damage. If possible, use a central line to deliver epinephrine and dopamine.

Intervening for Tachycardia

Tachycardia, which usually refers to a heart rate faster than 100 bpm, may result from various cardiac mechanisms. The first step in choosing the right drug is to identify the origin of the arrhythmia. Most tachycardias are classified as one of two types:

- Narrow-QRS-complex tachycardias (for instance, atrial fibrillation, atrial flutter, or atrial or multifocal atrial tachycardia)
- Wide-QRS-complex tachycardias (for example, ventricular tachycardia or supraventricular tachycardia with aberrancy).

Each type calls for a slightly different treatment. Narrow-QRS complex tachycardias with a regular rate generally are treated with adenosine, along with beta blockers, calcium channel blockers, and/or amiodarone or ibutilide.

With a wide-QRS-complex tachycardia, the first step is to determine if the arrhythmia is a ventricular tachycardia or is conducted with aberrancy. Wide-QRS-complex tachycardias with aberrancy call for the same treatment as narrow-QRScomplex tachycardias. On the other hand, ventricular tachycardia in a patient with a pulse is treated with amiodarone alone or with amiodarone in conjunction with synchronized cardioversion.

Adenosine

This general anti arrhythmic is used mainly as a diagnostic agent to identify the origin of an underlying narrow-QRS-complex tachycardia. It briefly depresses the atrioventricular (AV) node and sinus node activity. When given by rapid I.V. bolus, the drug's primary action is to slow electrical impulse conduction through the AV node. Be aware that adenosine commonly causes a few seconds of asystole, but because of its short half-life (6 to 10 seconds), the asystole usually is brief. The drug sometimes restores a normal sinus rhythm; if it doesn't, calcium channel blockers and beta blockers may be given immediately to control the heart rate while amiodarone or ibutilide may be used to help restore a normal sinus rhythm.

Diltiazem

A first-line agent in controlling heart rate in narrow QRS-complex tachycardias, this drug can be used both in patients with preserved cardiac function and in those with impaired ventricular function (ejection fraction below 40%) or heart failure. (Verapamil, another calcium channel blocker, should be used only in patients with preserved cardiac function.) A calcium channel blocker, diltiazem slows and/or blocks electrical impulse conduction through the AV node, reducing the number of impulses that arrive at the ventricular tissue and slowing the heart rate. It may cause hypotension secondary to vascular smooth-muscle relaxation. Also, it may block impulses in some narrow-QRS-complex tachycardias that involve AV nodal reentry, thereby terminating the rhythm and restoring normal sinus rhythm.

Drugs Used to Treat Acute Coronary Syndrome[4]

This table lists drugs used in the emergency treatment of acute coronary syndrome and other types of chest pain. After oxygen, aspirin, and nitroglycerin are given, the patient's status and presentation determine which other drugs should be used.

Drug	Dosage and delivery	Action	Nursing implications
Oxygen (O_2)	2 to 15 L/minute via appropriate delivery device	Maximizes O2 delivery to cells	*Use appropriate delivery device for appropriate device to cells amount of O2 ordered. *Monitor O2 saturation regularly. *Avoidexcessive administration in patients with concurrent chronic obstructive pulmonary disease.
Aspirin	160 to 325 mg P.O.	Slows platelet aggregation, reduces further arterial occlusion or reocclusion, and reduces chance of recurrence	*Monitor patient for drug allergy. *Watch for signs and symptoms of bleeding. *Check for concurrent use of similar agents (nonsteroidal anti-inflammatory drugs).
Nitroglycerin.	0.3 to 0.6 mg S.L. or 5 to 100 mcg/kg/minute by I.V. infusion	Dilates blood vessels	*Start at low dosage and titrate to achieve pain relief. *Monitor for hypotension. * Allow patient to rest. * Monitor for complaints of headache.
Morphine	2 to 4 mg by I.V. push every 5 to 15 minutes, to a maximum of 15 mg	Reduces ventricular preload and cardiac O2 requirements	*Watch for hypotension and sedation. *Monitor patient's respiratory efforts and function. *Assess for pain relief
Metoprolol	5 mg by I.V. push every 5 minutes, to a maximum	Dilates peripheral vascular beds reducing blood	*Watch for hypotension *Monitor heart rhythm for changes, particularly heart block.

	of 15 mg	pressure, cardiac workload, and cardiac oxygen demands	* Don't give to patients with severe left ventricular heart failure.
Heparin, enoxaparin	Heparin: per facility protocol Enoxaparin: 1 mg/kg subcutaneously	Stop original clot from expanding and prevent additional clots from forming	* Watch for bleeding. * Monitor platelet count for drug-induced thrombocytopenia
Glycoprotein •. IIb-IIIa inhibitors (such as abciximab, eptifibatide tirofiban)	Per manufacturer's protocol	Bind to platelets and slow aggregation; stop expansion of original clot and prevent, additional clots from forming	*Monitor platelet count. *Monitor patient for bleeding
Fibrinolytics(such as alteplase for reteplase)	Per facility protocol	Break down original clot	* Monitor patient for bleeding. *Be aware of contraindications for fibrinolytics.

Other Drugs

Occasionally, selected beta blockers are used to help control the heart rate associated with narrow-QRS-complex tachycardias. They include metoprolol, atenolol, propranolol, and esmolol. Propranolol isn't cardio selective and can affect pulmonary function, so it's used less often. Typically, esmolol is given only in the ICU. Atenolol is administered as a 5mg I.V. bolus over 5 minutes. If the patient tolerates the dose and the arrhythmia persists after 10 minutes, an additional bolus of 5 mg may be given over 5 minutes. Metoprolol also is administered I.V. in 5-mg increments over 5 minutes; the dose may be repeated twice, to a total of 15 mg. Don't give beta blockers or calcium channel blockers to patients with narrow-QRS-complex tachycardias suspected of being pre-excitation arrhythmias, such as Wolff Parkinson-White (WPW) syndrome. Such arrhythmias allow impulses to flow from the atria to the ventricles through an accessory or alternate pathway. Beta blockers and calcium channel blockers may increase the number of impulses arriving at ventricular tissue, further speeding the heart rate.

Amiodarone

This drug is used to treat certain narrow- and wide QRS complex tachycardias identified as ventricular tachycardia or tachycardias of unknown origin. Although a class III anti arrhythmic, it has some properties of all anti arrhythmic classes. Its primary action is to block potassium channels in the cell, but it also prolongs the action potential duration, depresses conduction velocity, slows conduction through and prolongs refractoriness in the AV node, and has some alpha-, beta-, and calcium channel blocking capabilities. Dosing depends on circumstances. When used to treat ventricular tachycardia in patients with a pulse, runs of paroxysmal ventricular tachycardia, or narrow-QRS complex tachycardias, amiodarone is given as a bolus of 150 mg over 10 minutes, followed by a continuous I.V. infusion starting at 1 mg/minute for 6 hours and then 0.5 mg/minute for 18 hours. If the patient is on nothing-by-mouth status for an extended time, the infusion can be kept running at 0.5 mg/minute. Otherwise, an oral dose usually is started before the infusion ends.

Conclusion

Cardiac emergencies can occur at any time in any patient. Being familiar with the actions, dosages, and rationales for commonly used emergency drugs will help you to manage any crisis with confidence and efficiency.

Reference

1. Jolly M, Lincoff AM. Chapter 7, Medications used in the management of acute coronary syndrome. The Cardiac Care Unit Survival Guide. Philadelphia: Lippincott Williams & Wilkins; 2012.
2. Bradberry S, Vale A. Management of poisons: Antidotes. Medicine. 2012; 40(2): 69-70.
3. Link MS. Evaluation and initial treatment of supraventricular tachycardia. N Engl J Med. 2012; 367: 1438-1448.
4. Ira Gen,e Reynolds ,Emergency cardiac drugs: Essential facts for med-surg nurses, American Nurse Today. 2010 July; 19-23.

Guidelines for Authors

Manuscripts must be prepared in accordance with "Uniform requirements for Manuscripts submitted to Biomedical Journal" developed by international committee of medical Journal Editors.

Types of Manuscripts and Limits

Original articles: Up to 3000 words excluding references and abstract and up to 10 references.

Review articles: Up to 2500 words excluding references and abstract and up to 10 references.

Case reports: Up to 1000 words excluding references and abstract and up to 10 references.

Online Submission of the Manuscripts

Articles can also be submitted online from http://rfppl.co.in/customer_index.php.

I) First Page File: Prepare the title page, covering letter, acknowledgement, etc. using a word processor program. All information which can reveal your identity should be here. use text/rtf/doc/PDF files. Do not zip the files.

2) Article file: The main text of the article, beginning from Abstract till References (including tables) should be in this file. Do not include any information (such as acknowledgement, your name in page headers, etc.) in this file. Use text/rtf/doc/PDF files. Do not zip the files. Limit the file size to 400 Kb. Do not incorporate images in the file. If file size is large, graphs can be submitted as images separately without incorporating them in the article file to reduce the size of the file.

3) Images: Submit good quality color images. Each image should be less than 100 Kb in size. Size of the image can be reduced by decreasing the actual height and width of the images (keep up to 400 pixels or 3 inches). All image formats (jpeg, tiff, gif, bmp, png, eps etc.) are acceptable; jpeg is most suitable.

Legends: Legends for the figures/images should be included at the end of the article file.

If the manuscript is submitted online, the contributors' form and copyright transfer form has to be submitted in original with the signatures of all the contributors within two weeks from submission. Hard copies of the images (3 sets), for articles submitted online, should be sent to the journal office at the time of submission of a revised manuscript. Editorial office: Red Flower Publication Pvt. Ltd., 48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi – 110 091, India, Phone: 91-11-45796900, 22754205, 22756995, Fax: 91-11-22754205, E-mail: author@rfppl.co.in, aurhor.rfp@gmail.com,Website: www.rfppl.co.in

Preparation of the Manuscript

The text of observational and experimental articles should be divided into sections with the headings: Introduction, Methods, Results, Discussion, References, Tables, Figures, Figure legends, and Acknowledgment. Do not make subheadings in these sections.

Title Page

The title page should carry

1) Type of manuscript (e.g. Original article, Review article, Case Report)
2) The title of the article, should be concise and informative;
3) Running title or short title not more than 50 characters;
4) The name by which each contributor is known (Last name, First name and initials of middle name), with his or her highest academic degree(s) and institutional affiliation;
5) The name of the department(s) and institution(s) to which the work should be attributed;
6) The name, address, phone numbers, facsimile numbers and e-mail address of the contributor responsible for correspondence about the manuscript; should be mentoined.
7) The total number of pages, total number of photographs and word counts separately for abstract and for the text (excluding the references and abstract);
8) Source(s) of support in the form of grants, equipment, drugs, or all of these;
9) Acknowledgement, if any; and
l0) If the manuscript was presented as part at a meeting, the organization, place, and exact date on which it was read.

Abstract Page

The second page should carry the full title of the manuscript and an abstract (of no more than 150 words for case reports, brief reports and 250 words for original articles). The abstract should be structured and state the Context (Background), Aims, Settings and Design, Methods and Materials, Statistical analysis used, Results and Conclusions. Below the abstract should provide 3 to 10 keywords.

Introduction

State the background of the study and purpose of the study and summarize the rationale for the study or observation.

Methods

The methods section should include only information that was available at the time the plan or protocol for the study was written such as study approach, design, type of sample, sample size, sampling technique, setting of the study, description of data collection tools and methods; all information obtained during the conduct of the study belongs in the Results section.

Reports of randomized clinical trials should be based on the CONSORT Statement (http://www.consort-statement. org). When reporting experiments on human subjects, indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional or regional) and with the Helsinki Declaration of 1975, as revised in 2000 (available at http://www.wma.net/e/policy/l 7-c_e.html).

Results

Present your results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. Extra or supplementary materials and technical details can be placed in an appendix where it will be accessible but will not interrupt the flow of the text; alternatively, it can be published only in the electronic version of the journal.

Discussion

Include summary of key findings (primary outcome measures, secondary outcome measures, results as they relate to a prior hypothesis); Strengths and limitations of the study (study question, study design, data collection, analysis and interpretation); Interpretation and implications in the context of the totality of evidence (is there a systematic review to refer to, if not, could one be reasonably done here and now?, What this study adds to the available evidence, effects on patient care and health policy, possible mechanisms)? Controversies raised by this study; and Future research directions (for this particular research collaboration, underlying mechanisms, clinical research). Do not repeat in detail data or other material given in the Introduction or the Results section.

References

List references in alphabetical order. Each listed reference should be cited in text (not in alphabetic order), and each text citation should be listed in the References section. Identify references in text, tables, and legends by Arabic numerals in square bracket (e.g. [10]). Please refer to ICMJE Guidelines (http://www.nlm.nih.gov/bsd/uniform_requirements.html) for more examples.

Standard journal article

[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006; 35: 540-7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, et al. Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003; 61: 347-55.

Article in supplement or special issue

[3] Fleischer W, Reimer K. Povidone iodine antisepsis. State of the art. Dermatology 1997; 195 Suppl 2: 3-9.

Corporate (collective) author

[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000; 71: 1792-801.

Unpublished article

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiber-reinforced composite substructure. Dent Mater 2006.

Personal author(s)

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2nd edn. New York: Wiley-Interscience; 2000.

Chapter in book

[7] Nauntofte B, Tenovuo J, Lagerlöf F. Secretion and composition of saliva. In: Fejerskov O, Kidd EAM,

editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. p. 7-27.

No author given

[8] World Health Organization. Oral health surveys - basic methods, 4th edn. Geneva: World Health Organization; 1997.

Reference from electronic media

[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ 20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

More information about other reference types is available at www.nlm.nih.gov/bsd/uniform_requirements.html, but observes some minor deviations (no full stop after journal title, no issue or date after volume, etc).

Tables

Tables should be self-explanatory and should not duplicate textual material.

Tables with more than 10 columns and 25 rows are not acceptable.

Table numbers should be in Arabic numerals, consecutively in the order of their first citation in the text and supply a brief title for each.

Explain in footnotes all non-standard abbreviations that are used in each table.

For footnotes use the following symbols, in this sequence: *, ¶, †, ‡‡,

Illustrations (Figures)

Graphics files are welcome if supplied as Tiff, EPS, or PowerPoint files of minimum 1200x1600 pixel size. The minimum line weight for line art is 0.5 point for optimal printing.

When possible, please place symbol legends below the figure instead of to the side.

Original color figures can be printed in color at the editor's and publisher's discretion provided the author agrees to pay.

Type or print out legends (maximum 40 words, excluding the credit line) for illustrations using double spacing, with Arabic numerals corresponding to the illustrations.

Sending a revised manuscript

While submitting a revised manuscript, contributors are requested to include, along with single copy of the final revised manuscript, a photocopy of the revised manuscript with the changes underlined in red and copy of the comments with the point to point clarification to each comment. The manuscript number should be written on each of these documents. If the manuscript is submitted online, the contributors' form and copyright transfer form has to be submitted in original with the signatures of all the contributors within two weeks of submission. Hard copies of images should be sent to the office of the journal. There is no need to send printed manuscript for articles submitted online.

Reprints

Journal provides no free printed reprints, however a author copy is sent to the main author and additional copies are available on payment (ask to the journal office).

Copyrights

The whole of the literary matter in the journal is copyright and cannot be reproduced without the written permission.

Declaration

A declaration should be submitted stating that the manuscript represents valid work and that neither this manuscript nor one with substantially similar content under the present authorship has been published or is being considered for publication elsewhere and the authorship of this article will not be contested by any one whose name (s) is/are not listed here, and that the order of authorship as placed in the manuscript is final and accepted by the co-authors. Declarations should be signed by all the authors in the order in which they are mentioned in the original manuscript. Matters appearing in the Journal are covered by copyright but no objection will be made to their reproduction provided permission is obtained from the Editor prior to publication and due acknowledgment of the source is made.

Abbreviations

Standard abbreviations should be used and be spelt out when first used in the text. Abbreviations should not be used in the title or abstract.

Checklist

- Manuscript Title
- Covering letter: Signed by all contributors
- Previous publication/ presentations mentioned, Source of funding mentioned
- Conflicts of interest disclosed

Authors

- Middle name initials provided.
- Author for correspondence, with e-mail address provided.
- Number of contributors restricted as per the instructions.
- Identity not revealed in paper except title page (e.g.name of the institute in Methods, citing previous study as 'our study')

Presentation and Format

- Double spacing
- Margins 2.5 cm from all four sides
- Title page contains all the desired information. Running title provided (not more than 50 characters)
- Abstract page contains the full title of the manuscript
- Abstract provided: Structured abstract provided for an original article.
- Key words provided (three or more)
- Introduction of 75-100 words
- Headings in title case (not ALL CAPITALS). References cited in square brackets
- References according to the journal's instructions

Language and grammar

- Uniformly American English
- Abbreviations spelt out in full for the first time. Numerals from 1 to l0 spelt out
- Numerals at the beginning of the sentence spelt out

Tables and figures

- No repetition of data in tables and graphs and in text.
- Actual numbers from which graphs drawn, provided.
- Figures necessary and of good quality (color)
- Table and figure numbers in Arabic letters (not Roman).
- Labels pasted on back of the photographs (no names written)
- Figure legends provided (not more than 40 words)
- Patients' privacy maintained, (if not permission taken)
- Credit note for borrowed figures/tables provided
- Manuscript provided on a CDROM (with double spacing)

Submitting the Manuscript

- Is the journal editor's contact information current?
- Is the cover letter included with the manuscript? Does the letter:

1. Include the author's postal address, e-mail address, telephone number, and fax number for future correspondence?
2. State that the manuscript is original, not previously published, and not under concurrent consideration elsewhere?
3. Inform the journal editor of the existence of any similar published manuscripts written by the author?
4. Mention any supplemental material you are submitting for the online version of your article. Contributors' Form (to be modified as applicable and one signed copy attached with the manuscript)

Revised Rates for 2017 (Institutional)

	Title	Frequency	Rate (Rs): India		Rate ($):ROW	
1	Dermatology International	2	5000	4500	500	450
2	Gastroenterology International	2	5500	5000	550	500
3	Indian Journal of Agriculture Business	2	5000	4500	500	450
4	Indian Journal of Anatomy	3	8000	7500	800	750
5	Indian Journal of Ancient Medicine and Yoga	4	7500	7000	750	700
6	Indian Journal of Anesthesia and Analgesia	3	7000	6500	700	650
7	Indian Journal of Biology	2	5000	3500	400	350
8	Indian Journal of Cancer Education and Research	2	8500	8000	850	800
9	Indian Journal of Communicable Diseases	2	8000	7500	800	750
10	Indian Journal of Dental Education	4	5000	4000	450	400
11	Indian Journal of Forensic Medicine and Pathology	4	15500	15000	1550	1500
12	Indian Journal of Forensic Odontology	2	5000	4000	450	400
13	Indian Journal of Genetics and Molecular Research	2	6500	6000	650	600
14	Indian Journal of Law and Human Behavior	2	5500	5000	550	500
15	Indian Journal of Library and Information Science	3	9000	8500	900	850
16	Indian Journal of Maternal-Fetal & Neonatal Medicine	2	9000	8500	900	850
17	Indian Journal of Medical & Health Sciences	2	6500	6000	650	600
18	Indian Journal of Obstetrics and Gynecology	3	9000	6500	700	650
19	Indian Journal of Pathology: Research and Practice	3	11500	11000	1150	1100
20	Indian Journal of Plant and Soil	2	5500	5000	550	500
21	Indian Journal of Preventive Medicine	2	6500	6000	650	600
22	Indian Journal of Research in Anthropology	2	12000	11500	1200	1150
23	International Journal of Food, Nutrition & Dietetics	3	5000	4500	500	450
24	International Journal of History	2	6500	6000	650	600
25	International Journal of Neurology and Neurosurgery	2	10000	9500	1000	950
26	International Journal of Political Science	2	5500	5000	550	500
27	International Journal of Practical Nursing	3	5000	4500	500	450
28	International Physiology	2	7000	6500	700	650
29	Journal of Animal Feed Science and Technology	2	4100	3600	410	360
30	Journal of Cardiovascular Medicine and Surgery	2	10000	8600	910	860
31	Journal of Forensic Chemistry and Toxicology	2	9000	8500	900	850
32	Journal of Microbiology and Related Research	2	8000	7500	800	750
33	Journal of Orthopaedic Education	2	5000	4500	500	450
34	Journal of Pharmaceutical and Medicinal Chemistry	2	16000	15500	1600	1550
36	Journal of Social Welfare and Management	3	7500	7000	750	700
37	Meat Science International	2	5000	4500	500	450
38	New Indian Journal of Surgery	3	7500	6600	710	660
39	Ophthalmology and Allied Sciences	2	5500	5000	550	500
40	Otolaryngology International	2	5000	4500	500	450
41	Pediatric Education and Research	3	7000	6500	700	650
42	Physiotherapy and Occupational Therapy Journal	4	8500	8000	850	800
43	Urology, Nephrology and Andrology International	2	7000	6500	700	650
44	Indian Journal of Emergency Medicine	2	12000	11500	1200	1150
45	Indian Journal of Surgical Nursing	3	5000	4500	500	450
46	Indian Journal of Trauma & Emergency Pediatrics	3	9000	8500	900	850
47	International Journal of Pediatric Nursing	3	5000	4500	500	450
48	Journal of Community and Public Health Nurisng	2	5000	4500	500	450
49	Journal of Geriatric Nursing	2	5000	4500	500	450
50	Journal of Medical Images and Case Reports	2	5000	4500	500	450
51	Journal of Nurse Midwifery and Maternal Health	3	5000	4500	500	450
52	Journal of Organ Transplantation	2	25900	25000	2590	2500
53	Journal of Psychiatric Nursing	3	5000	4500	500	450
54	Psychiatry and Mental Health	2	7500	7000	750	700

Terms of Supply:

1. Agency discount 10%. Issues will be sent directly to the end user, otherwise foreign rates will be charged.
2. All back volumes of all journals are available at current rates.
3. All Journals are available free online with print order within the subscription period.
4. All legal disputes subject to Delhi jurisdiction.
5. Cancellations are not accepted orders once processed.
6. Demand draft / cheque should be issued in favour of "Red Flower Publication Pvt. Ltd." payable at Delhi
7. Full pre-payment is required. It can be done through online (http://rfppl.co.in/subscribe.php?mid=7).
8. No claims will be entertained if not reported within 6 months of the publishing date.
9. Orders and payments are to be sent to our office address as given above.
10. Postage & Handling is included in the subscription rates.
11. Subscription period is accepted on calendar year basis (i.e. Jan to Dec). However orders may be placed any time throughout the year.

Order from

Red Flower Publication Pvt. Ltd., 48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi - 110 091 (India), Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205. E-mail: sales@rfppl.co.in, redflowerppl@gmail.com, Website: www.rfppl.co.in

Revised Rates for 2016 (Institutional)

Title	Frequency	Rate (Rs): India	Rate ($):ROW
Dermatology International	2	5000	500
Gastroenterology International	2	5500	550
Indian Journal of Agriculture Business	2	5000	500
Indian Journal of Anatomy	3	8000	800
Indian Journal of Ancient Medicine and Yoga	4	7500	750
Indian Journal of Anesthesia and Analgesia	3	7000	700
Indian Journal of Anthropology	2	12000	1200
Indian Journal of Biology	2	4000	400
Indian Journal of Cancer Education and Research	2	8500	850
Indian Journal of Communicable Diseases	2	8000	800
Indian Journal of Dental Education	4	4500	450
Indian Journal of Forensic Medicine and Pathology	4	15500	1550
Indian Journal of Forensic Odontology	2	4500	450
Indian Journal of Genetics and Molecular Research	2	6500	650
Indian Journal of Law and Human Behavior	2	5500	550
Indian Journal of Library and Information Science	3	9000	900
Indian Journal of Maternal-Fetal & Neonatal Medicine	2	9000	900
Indian Journal of Medical & Health Sciences	2	6500	650
Indian Journal of Obstetrics and Gynecology	3	9000	900
Indian Journal of Pathology: Research and Practice	3	11500	1150
Indian Journal of Plant and Soil	2	5500	550
Indian Journal of Preventive Medicine	2	6500	650
International Journal of Food, Nutrition & Dietetics	3	5000	500
International Journal of History	2	6500	650
International Journal of Neurology and Neurosurgery	2	10000	1000
International Journal of Political Science	2	5500	550
International Journal of Practical Nursing	3	5000	500
International Physiology	2	7000	700
Journal of Animal Feed Science and Technology	2	4100	410
Journal of Cardiovascular Medicine and Surgery	2	9100	910
Journal of Forensic Chemistry and Toxicology	2	9000	900
Journal of Microbiology and Related Research	2	8000	800
Journal of Orthopaedic Education	2	5000	500
Journal of Pharmaceutical and Medicinal Chemistry	2	16000	1600
Journal of Practical Biochemistry and Biophysics	2	5500	550
Journal of Social Welfare and Management	3	7500	750
New Indian Journal of Surgery	3	7100	710
Ophthalmology and Allied Sciences	2	5500	550
Otolaryngology International	2	5000	500
Pediatric Education and Research	3	7000	700
Physiotherapy and Occupational Therapy Journal	4	8500	850
Urology, Nephrology and Andrology International	2	7000	700
SUPER SPECIALITY JOURNALS			
Indian Journal of Emergency Medicine	2	12000	1200
Indian Journal of Surgical Nursing	3	5000	500
Indian Journal of Trauma & Emergency Pediatrics	3	9000	900
International Journal of Pediatric Nursing	3	5000	500
Journal of Community and Public Health Nurisng	2	5000	500
Journal of Geriatric Nursing	2	5000	500
Journal of Medical Images and Case Reports	2	5000	500
Journal of Nurse Midwifery and Maternal Health	3	5000	500
Journal of Organ Transplantation	2	25900	2590
Journal of Psychiatric Nursing	3	5000	500
Psychiatry and Mental Health	2	7500	750

Terms of Supply:
1. Advance payment required by Demand Draft payable to Red Flower Publicaion Pvt. Ltd. payable at Delhi.
2. Cancellation not allowed except for duplicate payment.
3. Agents allowed 10% discount.
4. Claim must be made within six months from issue date.

Order from
Red Flower Publication Pvt. Ltd., 48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi - 110 091 (India), Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205. E-mail: sales@rfppl.co.in, redflowerppl@gmail.com, Website: www.rfppl.co.in