Review Article

Health Teaching Regarding Chronic Obstructive Pulmonary Disease among the Labourers Working in Selected Construction Sites: An Updated Review

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Abstract

The objective of the review study was to effect of health teaching regarding chronic obstructive pulmonary disease (COPD) among the labourers working in selected construction sites at Pimpri-Chinchwad Municipal Corporation area of Pune City. The World Health Report 2002 says that people at work have exposure to myriad hazards. These hazards may be due to chemical, biological agents, physical factors, adverse ergonomic conditions, allergens, safety risks, and psychological factors. India being a developing country is faced with traditional public health problems such as communicable diseases, malnutrition, and inadequate medical care, on the one hand, while globalization and industrialization have resulted in the emergence of occupational health-related issues, which adds to the burden of effectively addressing health care in India. The review article concludes that there is a need for health teaching to improve the knowledge of the laborers regarding COPD working at the construction sites.

Keywords: Chronic obstructive pulmonary disease, construction sites, health care, labourers

Introduction

A review of literature helps in many ways. It helps to assess what is already known, what is still unknown, and what is untested also. It justified the need for its replication and throws some light on the feasibility of the study and problems that may be encountered. It also helps to uncover promising methodology tools, which shed light on ways to improve the efficiency of data collection and obtain useful information on how to increase the effectiveness of data analysis.[1]

Review of literature so far done shows that there are few studies done on the knowledge of the chronic obstructive pulmonary disease (COPD) among laborers working in selected construction sites. In view of the present study, the related reviewed literature review has been made and described under the following headings:

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- Literature related to COPD
- Literature related to COPD in construction workers
- Literature related to the effect of health teaching
- Literature related to the effect of health teaching regarding COPD.

COPD

The World Health Report 2002 says that people at work have exposure to myriad hazards. These hazards may be due to chemical, biological agents, physical factors, adverse ergonomic conditions, allergens, safety risks, and psychological factors. The exposure to such hazards may result in a range of health outcomes including injuries, cancer, hearing loss as well as respiratory, musculoskeletal, cardiovascular, reproductive, neurotoxic, skin, and psychological disorders. Since there is a lack of data, the report admits that only selected risk factors were evaluated. The disease burden from these risks is estimated to be 1.5% of the global burden in terms of DALYs. There are other important work-related risk factors such as pesticides, heavy metals, infectious organisms, and agents causing occupational asthma and chronic obstructive

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lung disease. The right to health and safety at work should be regarded as part of basic human rights.[2]

According to the World Bank/World Health Organization, Global Burden of disease reports that COPD is the sixth leading cause of death in developing countries, responsible for 4.9% of deaths. Despite smoking being the most important risk factor for this disease, account of over 75% of cases of disease, occupational exposure, alone, or in combination with smoking are responsible for a substantial proportion of disease. COPD, hitherto under-diagnosed in India, is now recognized in 4–10% of adult male population of India and several other Asian countries. The regional COPD Working Group for 12 Asia-Pacific Countries and Regions used a COPD prevalence model and estimated an overall prevalence rate of 6.3% with a range from 3.5 to 6.7%. The smoking associations with COPD were high in most countries, i.e., 2.65 in India, 2.57 in China, and 2.12 in Japan. In a large, multicentric study from India, the population prevalence of COPD was 4.1% of 35,295 subjects with a male to female ratio of 1.56:a. Almost all forms of smoking products such as cigarettes and "bidis" used in different states were found to be significantly associated with COPD. In nonsmokers, especially women, exposures to indoor air pollution from domestic combustion of solid fuels were an important factor. More significantly the exposure to environmental tobacco smoke (ETS) was an established cause for COPD. The odds ratio (OR) for risk from ETS exposure in nonsmokers (1.535) was significant during both the childhood and adulthood. On an average, an Indian COPD patient spent about 15% of his income on smoking products and up to 30% on disease management. Tobacco smoking was also the most frequent cause of chronic cor pulmonale which occurred as a long-term complication of COPD both among men and women.[3]

In India, COPD is the second most common lung disorder after pulmonary tuberculosis. The disease is frequently encountered in middle-aged subjects and is rare below the age of 35 years. COPD affects males more frequently because of smoking. It is equally prevalent in urban and rural areas. Various etiological factors such as cigarette smoking and occupational exposure to inorganic or organic dust or noxious gases are responsible for the production of COPD.[4]

A study was conducted to assess the true prevalence of the COPD in the community in South India and to estimate the burden of the disease. Out of 13,860 patients who underwent pulmonary function testing during the 3 years period between January 1999 and December 2001. The cohort included an individual who underwent spirometry as part of routine health checkup and patients attending hospital for elective surgery or for non-respiratory medical problems and those patients referred from the chest clinic for spirometry. History of more than 10 pack years of smoking was noted in all relevant cases. Out of 13,860 patients who underwent pulmonary function testing during the 3 years period, there were 9702 males and 4164 females. Nine hundred forty-six patients (6.8%) were diagnosed to have COPD according to GOLD guidelines, of which 811 were males (86%) and 135 were females (14%). More than 10 pack years of smoking were seen in 830 patients (87.7%) and 116 patients were non-smokers (12.3%). Mean age was 44.65 + 4.15 years. Out of 946 patients, 284 had mild COPD (30%), 286 had moderate disease (30%), and the remaining 387 patients (40%) had severe COPD. The overall prevalence of COPD in the present study was 6.85% with the prevalence of disease in males being 7.4% and in females 4.64%. Conclusion: There is a significant burden of COPD as a disease in the community with an overall prevalence of 6.85% in South India.

A study was conducted to assess mortality in COPD. COPD is a leading and increasing cause of death, the extent of which is underestimated as a consequence of under diagnosis and underreporting on death certificates — data from large trials, such as the Lung Health Study. Toward a revolution in COPD health, Understanding Potential Long-term impacts on Function with Tiotropium, European Respiratory Society Study on COPD, and Inhaled Steroids in Obstructive Lung Disease, have shown that the causes of death in patients with mild COPD are predominantly cancer and cardiovascular disease, but as COPD severity increases, deaths due to non-malignant respiratory disease are increasingly common. In practice, mortality of patients with COPD can be predicted by a variety of measures including: Forced expiratory volume in 1 s FEV1, the ratio of inspiratory and total lung capacities, exercise capacity, dyspnea scores, and composite indices such as the body-mass index (B), degree of airflow obstruction (O), degree of functional dyspnea (D), and exercise capacity (E) (BODE) index. Smoking cessation improves survival in COPD patients, and in select patients with advanced disease, oxygen therapy lung volume reduction surgery or lung transplantation may also improve survival.[5]

Borge CR *et al*., reported of an exploration of relationships between demographic and clinical variables and the symptoms of breathlessness, depression, anxiety, fatigue, sleeping difficulties, and pain for patients with COPD. A total of 154 patients with COPD participated in a cross-sectional study from June 2006 to December 2007 (response rate 40%). All underwent pulmonary lung function tests and completed questionnaires including demographic variable, the Brief Pain Inventory, Hospital Anxiety and Depression Scale, Lee Fatigue Scale, General Sleep Disturbance Scale, and the Respiratory Quality-of-Life (QOL) Questionnaire. Bivariate correlation and multiple regression analyses were performed. Breathlessness was statistically significant positively associated with the other symptoms, after controlling for demographic and clinical variables. Younger age was statistically significant related to more breathlessness, anxiety and sleeping difficulties and lower levels of education were statistically significant related to more depression, whereas more comorbidity was statistically significant related to more breathlessness and pain. Poorer lung function was statistically significant related to more breathlessness. However, higher lung function was related

to more sleeping difficulties. Conclusion Breathlessness was associated with symptoms such as depression, anxiety, fatigue, sleeping difficulties, and pain, suggesting the need for an expanded focus on symptoms in COPD guidelines, health care, and research.[6]

107 patients inhaled corticosteroids and long-acting beta agonists drugs for testing of survival rate. Survival rate increased from 62 to 64 years among males, 56 to 61 years among females with $P < 0.05$ significant difference. However, it added comorbidity such as diabetes mellitus, hypertension, renal failure, and dementia. Tsukino *et al*. (2000) tested the hypothesis on the use of Aerolizer with salbutamol in 53 patients with stable COPD. It had shown decreased serum potassium level after 1 h from 3.4 to 3.3 mg and glucose level increased from 105 mg to 110 mg. The use of these drugs for a longer period can produce hypokalemia and hyperglycemia.

District nurses are core providers of end-stage care in the community but appear to have little contact with patients suffering from non-malignant diseases, such as COPD. This review found limited literature describing the role of DNS in end-stage COPD care, and the studies that did touch on the subject restricted their discourse to the frequency of interaction. A clear bias of end-of-life services to patients with malignancy was noted, as well as a call for community services to extend care to all end-stage patients regardless of underlying disease. In addition, there was a further call for DNs to apply a more holistic approach to care, as described in the literature. Finally, it was clear that while ongoing community intervention is necessary for end-stage COPD patients, support and training are essential to equip DNs to care for these vulnerable patients.[7]

COPD in construction workers

India being a developing country is faced with traditional public health problems such as communicable diseases, malnutrition, and inadequate medical care, on the one hand, while globalization and industrialization have resulted in the emergence of occupational health-related issues which adds to the burden of effectively addressing health care in India. The major occupational diseases/morbidity of concern in India is silicosis, pneumoconiosis, chronic obstructive lung diseases, asbestosis, and by ssinosis which continues to cause permanent disabilities and deaths. It is also very disturbing to note that most of them show no symptoms until the disease is quite advanced. However, very little data are available on the prevalence and burden of occupational lung diseases in India. Some small scale community-based studies published by Agnihotram V Ramanakumar, in his article titled "An overview of occupational health research in India," in the year 2005, appearing in the Indian Journal of Occupational and Environmental Medicine of Jaipur, children employed in carpet weaving showed an evidence of acute respiratory problems arising probably from exposure to cotton dust (26.4%) when compared to other normal children (15.2%). The lock factory worker study in Aligarh showed that 73% of workers were suffering from chronic bronchitis and emphysema, while another study in Puducherry revealed that there was a six-fold risk of by ssinosis among the workers involved in spinning and a two-fold increase among workers in the weaving section. Among the tannery workers of Kanpur industrial slums, occupational morbidity was recorded as 28%. In another study conducted on southeastern coal mine workers, the study results revealed that the overall prevalence of pneumoconiosis was about 3% in India among the coal miners. Furthermore, deterioration of lung function was observed in Tamil Nadu among workers exposed to asbestos dust when compared to general workers in the manufacturing unit. These studies indicate that occupational lung diseases in India need to be addressed to reduce the prevalence and deaths associated with it.[8]

A study was conducted to assess the relationship between silica dust inhalation and COPD among workers of dust-generating industries. Cross-sectional study was conducted in three main industrial regions of Peshawar, i.e., Industrial Estate Hayatabad, Industrial area Ring Road, and Industries of Warsak Road Peshawar. A preformed questionnaire was used to interview 160 workers, 40 each from stone-grinding, ceramics, pottery, and brick industries, respectively. Only workers having worked for more than 5 years were selected through convenient sampling. Result: A total of 160 workers were interviewed, out of which 56 (35%) were symptomatic while 104 (65%) were asymptomatic. Among symptomatic ones, 20 (19.8%) were in 20–40 years age group and 36 (61%) were in 41–60 years age group. In regard to exposure status, 7 (26%) were symptomatic in those exposed for 5–10 years, 29 (31–5%) among those exposed for 11–15 years and 20 (49%) in those exposed for 15–20 years. With respect to working hours, none was symptomatic in those who had worked for 6 h or less while 56 (40%) were symptomatic in those who had worked for 8 or more hours. Among 128 smokers, 48 (37.5%) were symptomatic and among 32 nonsmokers, 8 (25%) were symptomatic. Among the symptomatic cases, symptoms appeared within 5–10 years in 7 (12.5%) of the cases, within 10–15 years in 29 (51.8%) of the cases and within 15–20 years in 20 (35.7%) of the cases. The major symptoms reported were cough in 56 (100%) of the cases, dyspnea in 48 (85.7%), and wheezing in 49 (87.5%) of the symptomatic cases. Conclusion: The study revealed that the majority of respondents who were exposed to silica dust for 10 years or more had respiratory problems. The severity of the problems was directly proportional to the duration of exposure to silica dust, density of dust (maximum in stone crushing), hours of daily exposure, and other contributory factors such as tobacco smoking and increasing age.[9]

The aim of this study was to analyze the impact of occupational exposures on respiratory symptoms, lung function, and employment status in a series of COPD patients. This was a cross-sectional study of 185 male COPD patients. Patients underwent baseline spirometry and answered a questionnaire that included information on respiratory

symptoms, hospitalizations for COPD, smoking habits, current employment status, and lifetime occupational history. Exposure to biological dust, mineral dust, and gases and fumes was assessed using an *ad hoc* job-exposure matrix. Results: Having worked in a job with high exposure to mineral dust or to any dusts, gas, or fumes was associated with an FEV1 of <30% predicted (mineral dust: relative risk ratio, 11:95% confidence interval [CI], 1.4–95); dusts, gas, or fumes; was associated with sputum production (OR, 2.8; 95% CI, 2–6.7) and dyspnea (OR, 1.2; 95% CI, 1.1–1.4). Occupational exposures are independently associated with the severity of airflow limitation, respiratory symptoms, and work inactivity in patients with COPD.

The aim of this study was to find out if occupational exposure to dust, fumes or gases, especially among never-smokers, increased the mortality from COPD. A cohort of 317,629 Swedish male construction workers was followed from 1971 to 1999. Exposure to inorganic dust (asbestos, human-made mineral fibers, dust from cement, concrete, and quartz), gases and irritants (epoxy resins, isocyanates, and organic solvents), fumes (asphalt fumes, diesel exhaust, and metal fumes), and wood dust was based on a job-exposure matrix. An internal control group with "unexposed" construction workers was used, and the analyses were adjusted for age and smoking. When all subjects were analyzed, there was increased mortality from COPD among those with any airborne exposure (relative risk 1.12 [95% CI 1.03–1.22). In a Poisson regression model, including smoking, age, and the major exposure groups, exposure to inorganic dust was associated with an increased risk (hazard ratio [HR] 1.10 [95% CI 1.06–1.14]), especially among never-smokers (HR 2.30 [95% CI 1.07–4.96]). The fraction of COPD among the exposed attributable to any airborne exposure was estimated as 10.7% overall and 52.6% among never-smokers. In conclusion, occupational exposure among construction workers increases mortality due to COPD, even among never-smokers.[10]

As tunnel workers are exposed to particles from drilling, blasting, and diesel exhaust, the aim of this study was to assess the occurrence of respiratory symptoms and lung function decline in underground construction workers and relate these findings to exposure. Two hundred twelve tunnel workers and a reference group of 205 outdoor construction workers participated in a cross-sectional study. Respiratory symptoms and lung function were studied in relation to exposure. A subgroup of 29 non-smoking concrete workers who had been exposed to tunnel environment for 1 year were examined by acoustic rhinometry, exhaled nitric oxide (NO), spirometry, and a questionnaire. Finally, 122 tunnel workers were included in a prospective study in 1991 and re-examined in 1999. Results: Among the tunnel workers, the prevalence of COPD was 14% versus 8% in the reference subjects. Compared to the reference subjects, the tunnel workers had a significant decrease in FEV1, related to years of exposure. Concrete workers from the tunnel site had significantly increased exhaled NO levels and nasal mucosal swelling compared to subjects who had performed similar tasks outdoors. The decrease in FEV1 was associated with cumulative exposure to respirable dust and quartz. Inhalation of construction-generated dust and gases enhances the risk of COPD in tunnel workers.

A study was conducted in Tanzania on 120 workers exposed to cement dust and 107 controls. After adjustment for age, pack years of smoking and education, exposed workers had much higher rates than controls of chronic bronchitis and other respiratory symptoms, with rates significantly related to the level of dust exposure. The prevalence of COPD was also much higher in the exposed group and increased with cumulative dust exposure.

Occupational exposure is an important risk factor for COPD and silica dust is one of the most important occupational respiratory toxins. Epidemiological and pathological studies suggest that silica dust exposure can lead to COPD, even in the absence of radiological signs of silicosis, and that the association between cumulative silica dust exposure and airflow obstruction is independent of silicosis. Recent clinicopathological and experimental studies have contributed further toward explaining the potential mechanism through which silica can cause pathological evidence relevant to the development of COPD in silica dust exposed workers within the context of recent findings. The evidence surveyed suggests that chronic levels of silica dust that does not cause disabling silicosis may cause the development of chronic bronchitis, emphysema, and/or small airways disease that can lead to airflow obstruction, even in the absence of radiological silicosis.[11]

Occupational exposures were assessed by direct questions on ever having worked in a dusty job or in a job with exposure to a gas or chemical fumes, and also through a job-exposure matrix. Respiratory symptoms associated with chronic bronchitis were noted to be more prevalent in exposed subjects, particularly among never smokers. Fifteen or more years of exposure to dust, fumes, or gases were associated with a non-significantly reduced FEV1 (−80, −186–+ 26 ml) and a significantly reduced FEV1/forced vital capacity (FVC) (−1.7, −3.3–−0.2 ml), after adjustment for sex, age, height, and smoking.

A cross-sectional study was done in Singapore involving 52,325 subjects. Exposure to dust (from cotton, wood, metal, minerals, or asbestos) was associated with an increased risk of chronic bronchitis (OR 1.26, 1.01–1.57) after adjustment for age, sex, dialect, and smoking. However, no significant association was seen for exposure to smoke (from welding, coal burning, wood burning, and other; OR 1.07, 0.83–1.28) or for exposure to vapors (from a variety of sources; OR 0.93, 0.71–1.22).

This was a cross-sectional study conducted in China involving 25,627 subjects. COPD was defined by post-bronchodilator FEV1/FVC <70%. In an analysis adjusted for area, sex, age, education, body mass index, smoking, kitchen ventilation, use of biomass for cooking or heating, pulmonary problems in childhood and a family history of pulmonary disease,

occupational exposure to dusts, gases, or fumes was associated with an OR for COPD of 1.20 (1.04–1.39).

A paper entitled "COPD:" A dust induced disease?" They noted that "Various reports have demonstrated the importance of small airway inflammation in the development of airflow limitation and progression of COPD" and proposed that "the pathogenesis of COPD mirrors a chronic inhalational dust-induced disease." This review is predominantly concerned with pathology rather than epidemiology, and among other things suggests that smoking-related COPD may result from exposure to the inorganic dust aluminum silicate or kaolinite, a common component of clay soils.

A cross-sectional study was done on 1497 men and women in an area of Italy with a high density of iron and steel working factories. Subjects were asked whether they had occupational exposures to dust, fumes, or gases. In males, self-reported COPD (chronic bronchitis or emphysema/asthma) was associated with exposure (OR 2.3, 1.4–3.7) after adjustment for smoking. No relationship was seen in women. FEV1 and FVC were not associated with occupational exposure.

A cross-sectional analysis of 2061 US residents aged 55–75 and assessed occupational exposure during the longest-held job both by self-reported exposures to vapors, gas, dust, or fumes, and through a job-exposure matrix. After adjusting for age, sex, race, and smoking, COPD, as defined by self-reported physician diagnosis of chronic bronchitis, COPD or emphysema, was significantly related to self-reported exposure (OR 2.0, 1.6–2.5) and to matrix exposure probability (ORs 1.0; 1.4 [1.1–1.9] and 1.6 [1.1–2.5] for low, intermediate and high exposure). These associations were somewhat strengthened by a more restrictive definition of COPD, excluding those with chronic bronchitis only.

Effect of planned health teaching

A study was conducted to assess the effectiveness of health teaching about partogram among the nurses working in maternity wards of the selected hospitals of Pune city. The sample has inadequate knowledge about partograph pertaining areas of monitoring the progress of labored. There was a significant increase in knowledge after the introduction of planned health teaching the paired z test computed between pre-test and post-test shows a significant increase in knowledge. Thus, it was concluded that planned health about partograph was effective as a teaching strategy.[12]

A study to assess the effectiveness of health teaching regarding the knowledge of aids among auto-rickshaw drivers in selected slums of Pune City as revealed in pre-test knowledge score, whereas in post-test knowledge score of the samples shows a marked increase, which indicates that the planned health teaching is effective to increase the knowledge of samples regarding AIDS.

A study was conducted to assess the effectiveness of structured teaching programme on the prevention and control of HIV/AIDS among pre-university students of the selected science college of Bangalore city. Present study evaluative research was appropriative, one group pre-test post-test design was used, and the target population the study was 1 year science group in three selected pre-university college. Six hundred samples were taken with a stratified random sampling technique. Self-administered questionnaires were used to collect the data. The overall mean knowledge score of pre- and post-test was 84.77% standard deviation (SD) 8.3%, 54.8% SD 13.1%. The statistical paired *t*-test implies that the difference between pre- and post-test scores was significantly 5% level. It indicates the impact of the intervention program.[13]

A study was done to assess the effect of planned health teaching regarding antenatal exercises among antenatal mothers attending antenatal clinics in the selected hospitals of Pimpri, Pune city. An exploratory method was used to assess the knowledge. A structured questionnaire was prepared knowledge regarding antenatal exercises among antenatal mothers. Actual data collection was done on 100 mothers meeting the criteria for the study. The findings show that the mean knowledge scores about antenatal exercises obtained from mothers in pre-test were 4.43 and in post-test it was 16.98. This difference was statistically highly significant at 1% level with "Z" value of –46.51. It can be concluded that the planned teaching on antenatal exercises has proved to be effective in delivering the knowledge and awareness.[14]

A study was done to assess the effectiveness of planned health teaching programme on the knowledge on antioxidant diet among cardiac patients of the selected hospital, Bengaluru one group pre-test post-test design was used. The study was conducted at Sri Jayadeva Institute of Cardiology; the population consisted of all patients clinically diagnosed as myocardial infarction. Sixty samples were taken by non-probability purposive sampling technique. The tool structure questioners were used to collect the data. The result pre-test means knowledge score is 15.70 with SD (10.6) and overall post-test score 22.12 with SD 10.9 This indicates that planned health teaching programme was effective in improving the knowledge on antioxidant diet among cardiac patients.[15]

Effect of health teaching regarding COPD

The aim of this study was to explore the effects and health economic consequences of patient education in patients with COPD in a 12-month follow-up. Sixty-two patients with mild-to-moderate COPD were at our out-patient clinic randomly allocated to an intervention group or a control group. The intervention group participated in a 4 h group patient education, followed by one to two individual nurse- and physiotherapist-sessions. Self-management was emphasized following a stepwise treatment plan. Effectiveness was expressed in terms of the number of general practitioner consultations, proportions in need of general practitioner consultations, utilization of rescue medication, and patient satisfaction. Costs related to doctor visits, days off work, dispensed pharmaceuticals, hospital admissions, travel costs,

educational, and time costs were recorded. Patient education reduced the need for general practitioner visits with 85% (from 3.4 to 0.5, $P < 0.001$) and kept a greater proportion independent of their general practitioner during the 12-month follow-up, compared with no education (73% vs. 15%, respectively). Patient education reduced the need for reliever medication from 290 to 125 Defined Daily Dose and improved patient satisfaction with the overall handling of their disease at general practitioner. The control and intervention groups induced mean total costs of NOK 19,900 and 10,600 per patient, respectively. For every NOK put into patient education, there was a saving of 4.8. The number needed to educate to make one person satisfied with their general practitioner was 4.5 and associated with a concomitant saving of NOK 41 900. Patient education of patients with COPD improved patient outcomes and reduced costs in a 12-month follow-up.

COPD is disabling with symptoms such as chronic cough, phlegm, wheezing, shortness of breath, and increase infection of the respiratory passage. The aim was to examine the effect of a structured educational intervention program at nurse-led primary health-care clinic on QOL, knowledge about the COPD and smoking cessation in patients with COPD. The study had an experimental design in which 52 patients with the COPD from a Swedish primary care setting were randomized into two groups (intervention or control). Both groups received standard care but the patient in the intervention group was also offered two visits to a nurse specialized in COPD care. The purpose of the visit was to increase the patients self-care ability and their knowledge about the COPD. Data were collected using two questionnaires, one pertaining to knowledge about the COPD and smoking habit and St. George's questionnaire addressing how the QOL was affected by patients respiratory system. The intervention and control groups answered both questionnaires on their first and last visit to the Primary Health Care Corporation. A statistically significant increase was noted in the intervention group on QOL, the number of patients who stop smoking, and patients knowledge about the COPD at follow-up 3–5 months after the intervention. This implies that patient was in dependent relationship which may have affected the responses in a favorable direction. Finding shows that conventional care alone did not have an effect on patients QOL and smoking habit, instead, the evidence suggests that structure program with self-care education is needed to motivate patients for lifestyle change.[16]

The aim of this study was to describe the experiences of COPD nurses in primary health care of educating patients with COPD. A descriptive qualitative study was conducted with interviews of 12 COPD nurses. The data were analyzed using qualitative content analyses. The finding is presented in two themes – theme one, receiving support results in a feeling of security which enables the development of patient education and theme two, a lack of support result in feeling of insecurity, which makes it difficult to develop patient education. The COPD nurses were individual-oriented with individualization of care but the patient's mood, the varying support of those around the nurses varying degrees of security affected the education. The conclusion is that COPD nurses experience of patient education fluctuated support from colleagues and by increased knowledge in promoting the learning of other.[17]

Conclusion

The review article concludes that there is a need for health teaching to improve the knowledge of the laborers regarding COPD working at the construction sites.

References

1. Best JW. Research in Education. 4th ed. New Delhi: Pretence Hall India Pvt Ltd.; 1982.
2. World Health Organization. The World Health Report 2002: Reducing Risks, Promoting Healthy Life. Geneva: World Health Organization; 2002.
3. Jindal SK. Emergence of chronic obstructive pulmonary disease as an epidemic in India. Indian J Med Res 2006;124:619-30.
4. Sharma SK. API Textbook of Medicine. 8th ed. Mumbai: The Association of Physicians of India Publication; 2008.
5. Berry CE, Wise RA. Mortality in COPD: Causes, risk factors, and prevention. COPD 2010;7:375-82.
6. Borge CR, Wahl AK, Moum T. Association of breathlessness with multiple symptoms in chronic obstructive pulmonary disease. J Adv Nurs 2010;66:2688-700.
7. Disler R, Jones A. District nurse role in end-stage COPD: A review. Br J Community Nurs 2010;15:428-30, 432-3.
8. Ramanathan AL, Subramanian V. Present status of asbestos mining and related health problems in India. Ind Health 2001;39:309-15.
9. Bushra I. Relationship between silica dust exposure and chronic obstructive pulmonary disease in workers of dust generating industry of district Peshawar. Gomal J Med Sci 2009;7:46-50.
10. Bergdahl IA, Torén K, Eriksson K, Hedlund U, Nilsson T, Flodin R, *et al*. Increased mortality in COPD among construction workers exposed to inorganic dust. Eur Respir J 2004;23:402-6.
11. Hnizdo E, Vallyathan V. Chronic obstructive pulmonary disease due to occupational exposure to silica dust: A review of epidemiological and pathological evidence. Occup Environ Med 2003;60:237-43.
12. Sharma S, Devi AM. Assess knowledge and practice regarding partograph among staff nurses: Pre experimental study. Indian J Public Health Res Dev 2019;10:498.
13. Borawski EA, Tufts KA, Trapl ES, Hayman LL, Yoder LD, Lovegreen LD. Effectiveness of health education teachers and school nurses teaching sexually transmitted infections/human immunodeficiency virus prevention knowledge and skills in high school. J School Health 2015;85:189-96.
14. Weljale BS. A study to assess the effect of planned health teaching regarding antenatal exercises among antenatal mothers attending antenatal clinic in selected hospitals Pimpri, Pune city. Int J Nurs Res 2017;3:107-12.
15. Rajesh B. Effectiveness of Structured Teaching Programme on Knowledge and Practice Regarding Patient Safety after Cardiac Catheterization among Cardiac Nurses (Doctoral Dissertation. Namakkal: Arvinth College of Nursing.
16. Efraimsson E. Effects of COPD self-care management, education at a nurse-led primary health care clinic. Scand J Caring Sci 2008;22:178-85.
17. Zakrisson AB, Hägglund D. The asthma/COPD nurses' experience of educating patients with chronic obstructive pulmonary disease in primary health care. Scand J Caring Sci 2010;24:147-55.

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