Original Article

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Psychological status and coping measures of individuals living with chronic obstructive pulmonary diseases

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Abstract

Background: Chronic obstructive pulmonary disease (COPD) is a major cause of morbidity and mortality worldwide and imparts substantial economic burden on individuals and health systems. Anxiety and depression were almost three times more common in COPD patients compared to the participants from the general population.

Objectives: To assess the psychological status and coping measures of individuals living with chronic obstructive pulmonary diseases.

Methods: Analytical cross-sectional research was conducted in medical outpatient department of Kathmandu Medical College Teaching Hospital from 2019 Nov 20 to 2020 May 20 after institutional ethical clearance. Total 185 individuals diagnosed with chronic obstructive pulmonary disease seeking medical care were included in the study by using purposive sampling. Data collection was done through face-to-face interview technique using Hopkins Symptoms Checklist-10 and Brief Cope inventory. The collected data were analysed using SPSS software version 20.

Results: Based on a cut-off value of ≥1.85 of Hopkins symptoms checklist-10, almost all (180, 97.3%) patients had mental distress. Frequently used approach coping subscales by the patients were emotional support (82, 44.2%), religion (81, 42%), planning (80, 41.8%), and active coping (80, 41.7%). Similarly, mostly used avoidance coping were: denial (80, 41.8%), venting (79, 41.1%), and self-blame (78, 40.6%).

Conclusion: Almost all patients living with chronic obstructive pulmonary diseases had predicted mental distress and they were using both approach and avoidance coping measures.

Key words: Chronic obstructive pulmonary disease; Coping measures; Psychological status.

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INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is not one disease but an umbrella term used to describe chronic lung diseases that cause limitations in lung airflow including chronic bronchitis, emphysema or a combination of both.[1,2] COPD and asthma place an enormous economic, social, and health burden on the United States and worldwide.[3] COPD is the third leading cause of death worldwide, causing 3.23 million deaths in 2019. Nearly 90% of COPD deaths in those under 70 years of age occur in low- and middle-income countries[3] and by 2030, is expected to be third leading cause of death in middle income countries.[4] Indoor air pollution contributes to chronic obstructive airway disease in south Asian Regions like Nepal, rural India, and Pakistan among poor people, especially in winter.[5] COPD symptoms like dyspnoea, exercise intolerance, and inability to fulfil expected social roles may lead to anxiety.[6] COPD patients have higher prevalence of depression and anxiety.[7] In Taiwan, depression incidence rate was 1.88 folds higher in COPD cohort.[8]

A study in Kathmandu reported that 63.3% had anxiety and 69.2% had depression.[9] Since, there is lack of studies, this study was conducted to assess the psychological status and coping measures of individuals living with COPD.

METHODOLOGY

Analytical cross-sectional research was conducted in medical outpatient department of Kathmandu Medical College Teaching Hospital (KMCTH) from 2019 Nov 20 to 2020 May 20 after ethical clearance from institutional review committee of KMCTH (Ref. 201120196). Taking Z = 1.96 at 95% confidence; p = 0.86 (86)[10]; q = 1-p = 1-0.86 = 0.14; and e = 5% margin of error, total 185 individuals diagnosed with COPD seeking medical care were included in the study by using purposive sampling. The individuals diagnosed as COPD less than six months were excluded from the study. Hopkins Symptoms Checklist-10 was used to find out the psychological status of patients. This tool is validated and already used in Nepal consists of four response categories: 'Not at all', 'A little', 'Quite a bit' and 'Extremely'. The responses are summarised across all items and the mean score is used as a measure of psychological distress. An average score ≥1.85 was considered a valid cut-off value for prediction of mental distress.[11] Brief Cope inventory was used to find out the coping measures of patient.[12] Total 28 items of this inventory were categorised into 14 subscales (each containing two items). The responses to these questions were measured on a 4-point Likert-type scale with responses ranging from 1 ("I've not done this at all") to 4 ("I've been doing this a lot"). The scores (ranging from 2 to 8) and the means for each coping method were then calculated. Data collection was done through face-to-face interview technique and the collected data were analysed using IBM SPSS Statistics for Windows, version 20 (IBM Corp., Armonk, N.Y., USA). Frequency, percentage, mean, and standard deviation were calculated for socio-demographic variables. Similarly, mean and standard deviation were calculated to find out the psychological status and coping measures of the patients. Pearson's correlation was done to find out the relationship between psychological distress and coping measures.

RESULTS

The mean age of respondents was 69.56 ± 9.97 years and sex distribution was almost equal: 91 (49.2%) males and 94 (50.8%) females. Majority of the respondents (108, 58.4%) were married and around half of the respondents (87, 47%) were illiterate. On the basis of economic status, majority of the respondents (114, 61.6%) were dependent (patients who relied on their family members for their expenses). Most of the respondents were either currently or previously smoking: 76 (41.1%) or 88 (47.5%) respectively (Table 1).

According to the duration of illness, majority of respondents had history of 5-10 years of illness with the mean duration of illness 7.65 ± 4.34 years. Patients were asked about the cause of severity of illness in last two weeks. The majority of respondents (112, 60.6%) responded that the cause of severity was physical problems, such as shortness of breathing (Table 2).

Regarding psychological status of patients, the mean score was 2.63 (Table 3). Since an average score ≥1.85 is considered a valid cut-off value for prediction of mental distress, almost all of the patients (180, 97.3%) had mental distress.

Most frequently used approach coping mechanisms by the patients were emotional support 82 (44.2%), religion 81 (42%), planning 80 (41.8%), and active coping 80 (41.7%) whereas instrumental support 75 (40.7%) was moderately used approach coping (Table 4). Similarly, mostly used avoidance coping were denial 80 (41.8%), venting 79 (41.1%) and self-blame 78 (40.6%), and substance use 70 (38.1%) was least used (Table 5).

There was moderate positive correlation between mental distress and both active and avoidance coping of patients (r = 0.339, p = <0.001 and r = 0.303, p = <0.001 respectively). Both the correlations were statistically significant. This indicates that the patients use both approach and avoidance coping approach while they have mental distress (Table 6).

Table 1: Socio-demographic information of the respondents (N=185)

Variables	Frequency (percent)
Age (in years)	
<60	30 (16.2)
60-70	67 (36.2)
70-80	66 (35.7)
80-90	22 (11.9)
Sex	
Male	91 (49.2)
Female	94 (50.8)
Marital status	
Unmarried	55 (29.7)
Married	108 (58.4)
Widow/widower	22 (11.9)
Education	

Illiterate	87 (47)
Primary level	73 (39.5)
Secondary level	25 (13.5)
Economic status	
Dependent	114 (61.6)
Independent	71 (38.4)
Smoking status	
Currently smoking	76 (41.1)
Previously smoking	88 (47.5)
Never smoking	21 (11.4)

Table 2: Disease related information of the respondents (N = 185)

Variables	Frequency (percent)
Duration of COPD (in years)	
<5	34 (18.4)
5-10	129 (69.7)
>10	22 (11.9)
Causes of severity (last two weeks)	
Physical problems	112 (60.6)
Financial problems	60 (32.4)
Social problems	13 (7)

Table 3: Psychological status of the respondents

Variables	Mean ± SD	Remarks
Suddenly scared without a reason	2.47± 0.91	Anxiety
Feeling fearful	2.48± 0.92	Anxiety
Faintness, dizziness or weakness	2.61± 0.95	Anxiety
Feeling tense or keyed up	2.66± 0.87	Anxiety
Blaming yourself for things	2.50± 0.91	Depression
Difficulty in falling asleep	2.75±0.91	Depression
Feeling blue	2.54± 0.92	Depression
Feeling of worthless	2.52± 0.84	Depression
Feeling everything is an effort and hard work	2.66± 0.90	Depression
Feeling hopeless about future	3.13± 0.900	Depression
Average mean score	2.63	Mental distress

Table 4: Approach coping measures used by the respondents

Variables	Frequency (Percentage)	Mean ± SD	Range
Emotional support	82 (44.2)	5.53 ± 1.43	2-8
Religion	81 (42)	5.26 ± 1.50	2-8
Planning	80 (41.8)	5.23 ± 1.27	2-8
Humour	80 (41.8)	5.23 ± 1.35	2-8
Active coping	80 (41.7)	5.22 ± 1.33	2-8
Acceptance	80 (41.7)	5.22 ± 1.43	2-8
Positive reframing	79 (41.2)	5.16 ± 1.30	2-8
Instrumental support	75 (40.7)	5.09 ± 1.36	2-8

Table 5: Avoidance coping measures used by the respondents

Variables	Frequency (Percentage)	Mean ± SD	Range
Denial	80 (41.8)	5.23 ± 1.47	2-8
Venting	79 (41.1)	5.14 ± 1.27	2-8
Self-blame	78 (40.6)	5.08 ± 1.32	2-8
Behavioural disengagement	78 (40.4)	5.06 ± 1.34	2-8
Self-distraction	78 (40.3)	5.04 ± 1. 27	2-8
Substance use	70 (38.1)	4.77 ± 1.57	2-8

Table 6: Correlation between mental distress and coping measures

Variables	r	p-value
Mental distress and approach coping	0.339	<0.001**
Mental distress and avoidance coping	0.303	<0.001**

**Significant at <0.001

DISCUSSION

Coping with a progressive disease such as COPD may induce high levels of distress. A study conducted in New Zealand in 2010 investigating distress in patients with COPD had reported high level of anxiety and depression.[13] In this study, the mean score of HSCL-10 was 2.63. Since an average score ≥1.85 is considered a valid cut-off value for prediction of mental distress, almost all of the patients (180, 97.3%) had mental distress. In contrast, in a study conducted in Netherlands 57% of COPD patients were in distress.[14] The difference might be due to different setting of the study and the use of different scale. In a previous study done in rural Nepal, anxiety and depression were almost three times more common in COPD patients compared to the participants from the general population.[15]In a study conducted in Kathmandu in 2016 showed 63.3% had anxiety and 69.2% had depression in patients with COPD.[9]

Frequently used approach coping subscales by the patients were emotional support (82, 44.2%), religion (81, 42%), planning (80, 41.8%), and active coping (80, 41.7%) whereas instrumental support (75, 40.7%) was moderately used approach coping. Similarly, mostly used avoidance coping were denial (80, 41.8%), venting (79, 41.1%), and self-blame (78, 40.6%), and substance use (70, 38.1%) was moderately used approach coping. Findings were consistent with a study done in Pakistan in which most frequently used coping strategies were religion (48.1%), acceptance (34.6%) whereas use of instrumental support (32.7%), active coping (30.8%), planning (28.8%), use of emotional support (28.8%), were moderately used coping strategies; and humour (9.6%), behavioural disengagement (7.7%), and substance use (5.8%) were least frequently used coping strategies.[16] The findings were also comparable with a previous study done in Nepal in which respondents mostly used self-distraction, religion, positive reframing, emotional support, active coping, informational support, acceptance as their coping strategies. Whereas self-blame, humour, substance use, denial, behavioural disengagement were the least used coping strategies.[17]

There was moderate positive correlation between mental distress and approach coping of patients (r = 0.339). Contrast finding was observed in a previous study done in Nepal where there was weak negative correlation between psychological distress and approach coping strategies (r = -0.29).[17] This might be due to difference in study population. In this study moderate positive correlation was found between mental distress and avoidance coping of patients (r = 0.303). Findings was consistent with a previous study done in Nepal where there was moderately positive correlation between psychological distress and avoidance coping strategies (r = 0.45).[17]

Though there are many studies to find out the depression and anxiety among COPD patients, very few studies are carried out to assess the psychological distress among the patients having chronic obstructive pulmonary diseases. Hence, it was difficult to compare the findings of the study with previous studies. Some of the articles used to compare the findings are not similar. This is the main limitation of this study.

CONCLUSION

Most of the patients living with chronic obstructive pulmonary diseases had predicted mental distress and they were using both approach and avoidance coping measures. There was significant moderate positive correlation between mental distress and both active and avoidance coping of patients. Physical, emotional, and financial support to the patients is essential to improve their psychological status.

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