Health Professional Manual

Session 1

Management of Breathlessness

➤ Anxiety-Breathlessness Cycle
➤ Breathing in COPD
➤ Managing Shortness of Breath
  – Pursed-lip Breathing Technique
  – Breathing Control
  – Positions of Ease

Adapted from the “Living Well with COPD” program (2nd edition), Montreal Chest Institute, Canada for Pulmonary Rehabilitation Programmes in Northern Ireland – 2011.
MANAGEMENT OF BREATHLESSNESS
SESSION SUMMARY

Education Plan and Methods

Session Length: 30-45 minutes

• Introduction
• Working Phase
  1. The anxiety-breathlessness cycle. Interactive lecturing.
  2. How breathing works in COPD. Interactive lecturing.
    3.1 PLB technique. Demonstration and practice.
    3.2 Breathing control technique. Demonstration and practice.
    3.3 Positions of ease to reduce SOB. Demonstration and practice.
    3.4 S.O.S. in an acute attack of SOB. Demonstration and practice.
  4. Summary of the session and assessment of participants’ understanding and self-efficacy. Group discussion.

• Closing of the session

Appendices section:
Appendix 1: Additional information
  1. Coughing Techniques

Human Resources

  1. One health professional (recommended facilitator: physiotherapist)

Living Well with COPD™ for Pulmonary Rehabilitation

Resources

  1. Information Booklet (Pages 26 to 30)
  2. Key messages: Management of Breathlessness
  3. Educational Posters:
     • Normal lung
     • COPD lung
     • The anxiety-breathlessness cycle
     • Pursed-lip breathing to reduce shortness of breath
     • Breathing control to help relieve shortness of breath
     • Positions of ease to reduce shortness of breath
     • S.O.S technique in an acute attack of shortness of breath
  4. Cue Card: S.O.S technique in an acute attack of shortness of breath

Additional Resources

  1. Board / Flipchart

Environment

  1. Use a quiet and comfortable room for 10 to 15 people. Ensure proper ventilation.
  2. Place the chairs in a semi-circle around the board.

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MANAGEMENT OF BREATHLESSNESS
GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION

Introduction
• Presentation of the Facilitator.
• Outline the goals of this session.

Working Phase – Educational Interventions

1. The Anxiety-breathlessness cycle

1.1 UNDERSTANDING THE LINK BETWEEN SHORTNESS OF BREATH AND ANXIETY: THE ANXIETY-BREATHLESSNESS CYCLE

Use the poster “The anxiety-breathlessness cycle” to support your teaching.

Introduce the anxiety-breathlessness cycle in COPD. Explain the impact of anxiety over the control of shortness of breath and the need to break this vicious cycle.

Suggested script for the Facilitator:
• The main symptom of COPD is shortness of breath.
• Shortness of breath can cause anxiety and even panic attacks.
• Anxiety makes you breathe faster, which increases your shortness of breath and as a result, you become more anxious.
• Many people with COPD choose to stop doing activities because they are afraid of becoming breathless.
• The less you do, the less you are in shape. You will experience more fatigue, shortness of breath and anxiety.
• This is the Anxiety-Breathlessness cycle.

When you have COPD, nothing will make shortness of breath go away completely. However, regularly practicing the techniques taught in this session will help you to manage your anxiety and shortness of breath better.

Adapted from the “Living Well with COPD” program (2nd edition), Montreal Chest Institute, Canada for Pulmonary Rehabilitation Programmes in Northern Ireland – 2011.
2. How breathing works in COPD

2.1 BREATHING IN COPD

Use the posters of “Normal lung” and “COPD lung” to support your teaching.

2.1.1 Perform the following exercise with the participants in order to make them locate their lungs and feel their breathing.

Suggested question:
• Do you know where your lungs are?

Suggested script for the Facilitator:
You have two lungs and they are in your chest. They are so large that they take up most of the space in your chest. You cannot see your lungs but you can feel them working and you can feel how big they are:
• Put your hands on the upper part of your chest and take a deep breath in. You will feel your chest getting slightly bigger. As you breathe out your chest will return to its normal size.
• Place your hands on the lower part of your chest and take a deep breath in.
• Place your hands on the sides of your ribs and take a deep breath in.
• If you can, place one arm across your back and take a deep breath in.

2.1.2 Explain to participants how breathing works and the impact of inflammation and air trapping on the lungs.

Suggested script for the Facilitator:
How breathing works
• Breathing involves two phases:
  – Breathing in (known as inspiration), and
  – Breathing out (known as expiration).
• When you breathe in, your chest expands and the muscle at the base of your lungs, the diaphragm moves down, allowing air to move into the lungs.
• When you breathe out, the diaphragm returns to its normal position (goes up), the chest gets smaller and air is pushed out of the lungs.
When you have COPD, two changes happen in your lungs which can make breathing difficult:

- Firstly, the airways become inflamed. The inflammation of the airways makes them become narrower and they produce more sputum. This makes it harder to get air in and out of the lungs.

- The lung tissue also loses its elasticity. Because of the loss of tissue elasticity the airways have a tendency to collapse or flop when you breathe out, trapping air in the lungs. This air trapping makes it difficult to breathe all of the air out of your lungs and therefore, you have trouble breathing in new air. This can make you become short of breath.

COPD gradually worsens over time. At first you may experience only occasional coughing and mild shortness of breath. With time you may find that you cough more, start to produce sputum and become more breathless with very little effort.

When people with COPD become breathless the diaphragm has to work more and its movement is less efficient. In addition, muscles from the neck, ribs and stomach (these are known as the accessory muscles) start to be used more for breathing.

Being constantly short of breath can make you feel frightened and exhausted. In fact, shortness of breath is one of the major symptoms of COPD leading to anxiety and disability. The important thing is to control your shortness of breath so that it does not control you!

If you reduce the inflammation and air trapping you will allow air to get in your lungs more easily, as a result you will feel less short of breath. Your medications can help you, and so can certain breathing techniques and body positions.
3. Managing Shortness of Breath

3.1 PURSED-LIP BREATHING TECHNIQUE

Use the poster “Pursed-lip breathing to reduce shortness of breath” to support your teaching.

Evaluate the existing knowledge of participants with respect to pursed-lip breathing.

Suggested question:
- Have you heard about the pursed-lip breathing technique? If yes, are you using it? How and when?

Present the goal, benefits and points to remember of the pursed-lip breathing technique. Demonstrate the steps of the technique.

Suggested script for the Facilitator:

Pursed-lip breathing is one technique that can help you feel less short of breath.

Goal:
With this technique, you breathe out slowly, which allows you to breathe out more air, therefore leaving less air trapped inside your lungs.

Steps to follow
1. Breathe in slowly through your nose filling your lungs with air.
2. Purse your lips as you would if you were whistling or about to kiss someone.
3. Breathe out slowly while keeping your lips pursed. Make sure to take longer to breathe out than you would to breathe in. Remember to keep your lips pursed.

Do not force your lungs to empty.

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MANAGEMENT OF BREATHLESSNESS
GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION

Ask the participants to demonstrate back the technique. Provide them constructive feedback and reinforcement on the performance of the technique.

Benefits:

1. Reduces breathing frequency and shortness of breath.
2. Helps you return to your normal breathing pattern after exercise.
3. Improves your ability to perform different activities.
4. Increases your sense of control over your own breathing.

Points to remember:

• The focus should be on the breath out.
• Breathing out should be made longer, but not forced.
• First master this breathing technique while at rest. Then you will be able to use it with activities requiring effort.

Note to the facilitator: Some patients do not normally breathe through the nose, but through the mouth (because of obstruction, congestion, etc.). For them, the focus should be made on exhaling through pursed lips and using more time to breathe out than to breathe in.
Use the poster “Breathing control to help relieve shortness of breath” to support your teaching.

Evaluate the existing knowledge of participants with respect to breathing control.

Suggested question:

- Have you heard about the breathing control technique? If yes, are you using it? How and when?

Present the goal, benefits and points to remember of the breathing control technique. Demonstrate the steps of the technique.

Suggested script for the Facilitator:

Breathing control is what we describe as relaxed normal breathing. It is another breathing technique that can help you feel less short of breath. It is also known as “tummy” breathing.

Goal:

With breathing control, you breathe using the lower chest while the upper chest and shoulders remain relaxed. Breathing control requires minimal effort.

Steps to follow

1. Breathing control can be done in any position. It can be done while standing, sitting or lying on your side (with your shoulders supported high up on pillows).

2. Relax your upper chest, shoulders and arms.

3. Place one hand lightly on your tummy.

4. Take a normal sized breath in through your nose; you should feel your hand on your tummy rise up and out.

5. Then breathe out slowly through your mouth. You should feel the hand on your tummy sink in.

As you breathe in and your lungs fill up with air your diaphragm moves down. This pushes your abdominal contents out and hence your tummy rises up and out. As you breathe out, the air moves out of the lungs, they become smaller and your diaphragm moves back up. Therefore, your abdominal contents move in again and your tummy sinks in.

Ask the participants to demonstrate back the technique. Provide them constructive feedback and reinforcement on the performance of the technique.
People with COPD can use breathing control to help relieve shortness of breath at rest.

**Benefits:**

1. Allows the diaphragm to be used more for breathing.
2. Helps you return to your normal breathing pattern after you become short of breath.
3. Increases your sense of control over your own breathing.

**Points to remember:**

- The focus should be on using the lower chest while the upper chest and shoulders remain relaxed.


**Note to the facilitator:** Some patients do not normally breathe through the nose, but through the mouth (because of obstruction, congestion, etc.). For them, the focus should be on keeping the shoulders and upper chest relaxed, while taking a normal sized breath in.
3.3 POSITIONS OF EASE TO REDUCE SHORTNESS OF BREATH

Use the poster “Positions of ease to reduce shortness of breath” to support your teaching.

Evaluate the existing knowledge of participants with respect to positions of ease.

Suggested question:

- Do you think the way that you stand or sit can affect your breathing? If yes, how?

Present the goal, benefits and points to remember of positions of ease to reduce shortness of breath. Demonstrate the five body positions.

Suggested script for the Facilitator:

**Positions of ease to reduce shortness of breath**

Poor posture – with shoulders tensed or hunched over – can also lead to increased shortness of breath, because your chest cannot expand to its full capacity. Changing your body position while sitting or standing can help you breathe better.

**Goal:**

- To offer relief to accessory muscles and improve diaphragm function.
BODY POSITIONS

<table>
<thead>
<tr>
<th>SITTING</th>
<th>STANDING</th>
</tr>
</thead>
</table>
| **Sitting position A**  
- Place both feet on the ground.  
- Lean your chest forward slightly.  
- Relax your upper chest and shoulders.  
- Rest your elbows on your knees.  
- You can rest your chin on your hands.  | **Sitting position A**  
- Lean your chest forward slightly.  
- Relax your upper chest and shoulders.  
- Rest your hands on your thighs.  |
| **Sitting position B**  
- Place both feet on the ground.  
- Lean your chest forward slightly.  
- Relax your upper chest and shoulders.  
- Rest your forearms on a table.  
- You can rest your head on a pillow.  | **Standing position B**  
- Rest your elbows on a piece of furniture.  
- Rest your head on your forearms.  
- Relax your upper chest and shoulders.  |
| **Standing position C**  
- Rest your hands on a flat surface.  
- Relax your upper chest and shoulders.  
- Avoid “grabbing the table” while assuming this position. This can overwork some of your accessory breathing muscles, and cause breathlessness if you hold the position too long.  |    |

Have participants practice some of the different positions of ease in front of you according to the steps, while integrating either the pursed-lip breathing technique or the breathing control technique. Provide them constructive feedback and reinforcement on the performance of the techniques learned.

**Suggested questions:**

- Did your breathing change when you used one of the body positions previously described?
- How did it feel different?

**Benefits:**

1. Help the diaphragm to move easier.
2. Help reduce shortness of breath.

**Points to remember:**

- Use pursed-lip breathing or breathing control with the different body positions.
- It’s important to lean your chest forward slightly, which reduces the pressure against your diaphragm, allowing it to relax more. Relax your shoulder and neck muscles and find something to support you, if possible.
- You may also find it useful to sit or stand beside a fan or an open window when you feel very breathless.
3.4 S.O.S. IN AN ACUTE ATTACK OF SHORTNESS OF BREATH

Demonstration and Practice

Use the poster “S.O.S. technique in an acute attack of shortness of breath” and Attachment 1 (Cue Card: S.O.S. technique in an acute attack of shortness of breath) to support your teaching.

3.4.1 Explore participants’ experience in managing an attack of shortness of breath.

Suggested question:

• What do you do when you experience an acute attack of shortness of breath?

3.4.2 Present the goal, benefits, and points to remember of the S.O.S. technique. Demonstrate the steps of the technique

Suggested script for the Facilitator:

S.O.S. in an acute attack of shortness of breath

Experiencing an acute attack of shortness of breath can be frightening for people with COPD. Learning to stay calm during an attack can get your breathing – and anxiety – back under control.

Goal:

• To bring your breathing back to normal during an acute attack of shortness of breath.

Steps to follow

1. Stop and find a comfortable position.
2. Stay as calm as possible; relax your shoulders.
3. Start pursed-lip breathing: breathe in through your nose and purse your lips to breathe out. If you are unable to breathe in through your nose use your mouth.
4. Slow down your breathing by taking more time to breathe out than you would to breathe in. Do not force your lungs to empty.
5. Start to breathe in through your nose if you have not been able to do it so far.
6. Continue to pursed-lip breathe until your breathing is back under control.

If necessary, you could also take your short-acting bronchodilator (reliever).

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MANAGEMENT OF BREATHLESSNESS

GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION

Benefits:

• Learn how to control shortness of breath.
• Help reduce the panic associated with an attack.

Points to Remember:

• Make sure that you practice and master the pursed-lip breathing technique while at rest before using it during an acute attack of shortness of breath.
• It is very important that you give yourself the space and time to get your breathing back to normal. Remember to slow down your breathing.

3.4.3 Demonstrate the use of the S.O.S. technique to manage an acute attack of shortness of breath during an activity.

Suggested script for the Facilitator:

Let’s practice how you would use the S.O.S. technique if you have an acute attack of shortness of breath when doing an activity.

In a moment I would like you to stand up and start marching on the spot until you become slightly breathless. Then use the S.O.S. technique to help you gain control over your breathing. The steps of the technique are here (display attachment 1 where all participants can see it) to make sure you are carrying it out correctly.

Have participants march on the spot until they become slightly breathless. They should then practice the S.O.S. technique. Provide them constructive feedback and reinforcement on the performance of the techniques learned.
4. Summary of the session and assessment of participants’ understanding and self-efficacy

4.1 SUMMARY OF THE SESSION AND ASSESSMENT OF PARTICIPANTS’ UNDERSTANDING AND SELF-EFFICACY

Present this section using Group Discussion

Evaluate participants’ understanding and self-efficacy to manage their breathing by using breathing techniques as well as body positions to reduce shortness of breath. Use this opportunity to summarise the key messages of the session. Use Attachment 2 (Key messages: Management of Breathlessness) to support your teaching.

Suggested questions:

- How well do you understand what COPD is?
- How well do you understand how COPD changes over time?
- Do you feel able to use breathing techniques to manage your symptoms (e.g. slowing your breathing down and pursed lip breathing)?
- Do you feel able to use positions of ease to reduce shortness of breath?
- Do you think the techniques taught in this session can help you to manage your shortness of breath better?

Suggested script for the Facilitator:

- With COPD, the airways become inflamed and the lung tissue loses its elasticity. This makes it harder to get air in and out of the lungs. There are some techniques and therapies you can use to manage your symptoms.
- Learning to manage breathlessness is important. Some techniques you can use include:
  - Pursed lip breathing: Breathe in. Purse your lips and breathe out. The breath out should be longer than the breath in, but not forced.
  - Breathing control: Breathe in through your nose and breathe out slowly through your mouth. Keep the upper chest and shoulders relaxed.
  - Positions of ease: Lean your chest forward slightly. It may help to rest your arms on a firm surface.
MANAGEMENT OF BREATHLESSNESS
GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION

• If you experience an acute attack of shortness of breath:
  – Stop and find a comfortable position.
  – Stay as calm as possible; relax your shoulders.
  – Start pursed-lip breathing: breathe in through your nose and purse your lips to breathe out. If you are unable to breathe in through your nose use your mouth.
  – Slow down your breathing by taking more time to breathe out than you would to breathe in. Do not force your lungs to empty.
  – Start to breathe in through your nose if you have not been able to do it so far.
  – Continue to pursed-lip breathe until your breathing is back under control.

If necessary, you could also take your short-acting bronchodilator (reliever).

Note to the facilitator: Inform participants that the key messages from this session are summarised on their key messages sheet (Attachment 2) and the breathing techniques are summarised in their information booklets (Pages 26 to 30).

If participants feel confident managing their breathing, ask them to continue applying the techniques taught in this session.

If some participants do not feel confident managing their breathing, ask them to speak to a member of the pulmonary rehabilitation team on an individual basis to investigate the reasons and reinforce the use of the techniques taught in this session.

Closing the session

• Answer the questions of the participants.

• Learning Contract: Ask the participants to review and practice at home each one of the different techniques taught in the present session (at least one technique each day).

• Evaluate the satisfaction of the participants with regards to the present session.
S.O.S. technique in an acute attack of shortness of breath

1. **Stop** and find a *comfortable position*.

2. **Stay as calm as possible**; relax your shoulders.

3. Start pursed-lip breathing: breathe in through your nose and **purse your lips to breathe out**. If you are unable to breathe in through your nose use your mouth.

4. **Slow down your breathing** by taking more time to breathe out than you would to breathe in. Do not force your lungs to empty.

5. Start to breathe in through your nose if you have not been able to do it so far.

6. Continue to pursed-lip breathe until your breathing is back under control.

If necessary, you could also take your short-acting bronchodilator (reliever).
Management of Breathlessness

Key Messages

• With COPD, the airways become inflamed and the lung tissue loses its elasticity. This makes it harder to get air in and out of the lungs. There are some techniques and therapies you can use to manage your symptoms.

• Learning to manage breathlessness is important. Some techniques you can use include:
  - Pursed lip breathing: Breathe in. Purse your lips and breathe out. The breath out should be longer than the breath in, but not forced.
  - Breathing control: Breathe in through your nose and breathe out slowly through your mouth. Keep the upper chest and shoulders relaxed.
  - Positions of ease: Lean your chest forward slightly. It may help to rest your arms on a firm surface.

• If you experience an acute attack of shortness of breath:
  - Stop and find a comfortable position.
  - Stay as calm as possible; relax your shoulders.
  - Start pursed-lip breathing: breathe in through your nose and purse your lips to breathe out. If you are unable to breathe in through your nose use your mouth.
  - Slow down your breathing by taking more time to breathe out than you would to breathe in. Do not force your lungs to empty.
  - Start to breathe in through your nose if you have not been able to do it so far.
  - Continue to pursed-lip breathe until your breathing is back under control.

If necessary, you could also take your short-acting bronchodilator (reliever).
Appendix 1:

1. Coughing techniques

1.1 COUGHING TECHNIQUES BENEFITS

Present this section in an interactive way

Use a poster of the “Coughing techniques” taken from the educational flipchart to support your teaching.

Evaluate the existing knowledge of participants with respect to coughing techniques.

Suggested question:

• Did you know that some coughing techniques could help to better clear your lungs?
• How can learning to cough properly help you breathe better and save your energy?

Explain the benefits of different coughing techniques.

Suggested script for the Facilitator:

When you have COPD, your airways can be blocked with thick, sticky mucous or sputum. Not only does this make it harder for you to breathe, it also provides a breeding ground for infections. Coughing, therefore, is important, because it helps to remove sputum from your lungs. A regular, hacking cough, however, will not do the job.

There is a proper way of coughing, just as there is a proper way of breathing.

Goal:

• To remove sputum from your lungs while using less effort.

Benefits

1. Prevents infections caused by increased sputum in your lungs.
2. Reduces shortness of breath caused by sputum blocking your airways.

Points to remember

• Avoid coughing in small fits.
• It is important to save energy.
1.2 CONTROLLED COUGH TECHNIQUE

Demonstration and practice

Demonstrate the steps of the controlled cough technique.

Suggested script for the Facilitator:

Controlled cough technique

Steps

1. Seat yourself in a comfortable position.
2. Lean your head slightly forward.
3. Place both feet firmly on the ground.
4. Inhale deeply through your nose.
5. Cough twice while keeping your mouth slightly open. The first cough will loosen your sputum. The second cough will move the sputum up into your throat. Spit the sputum out into a tissue.
6. Take a break and repeat once or twice if there are no immediate results.

Have participants practice the controlled cough technique in front of you according to the steps. Provide them constructive feedback and reinforcement on the performance of the techniques learned.
1.3 “HUFFING” TECHNIQUE

Demonstration and practice

Demonstrate the steps of the “huffing” technique.

Suggested script for the Facilitator:

“Huffing” Technique

Steps

1. Seat yourself in a comfortable position.
2. Lean your head slightly forward.
3. Place both feet firmly on the ground.
4. Inhale deeply through your nose.
5. Exhale in short, non-forceful bursts while keeping your mouth open, as if you were trying to make mist on a window.
6. Repeat once or twice.

Note: Avoid forceful expiration.

Have participants practice the huffing technique in front of you according to the steps. Provide them constructive feedback and reinforcement on the performance of the techniques learned.

Here are some more suggestions to help you remove sputum from your airways

1. Sputum can accumulate in your airways overnight. You should try to do these cough techniques each morning at least 10 minutes after using your short-acting bronchodilator.
2. Repeat these coughing techniques as needed throughout the day, e.g. before going out.
3. Avoid bursts of coughing. This wastes energy and causes shortness of breath.
4. If you have a greater amount of sputum production, single “huffs” may be coordinated with your controlled cough techniques.
5. If there is little or no sputum, do not keep trying to cough. You will not get any benefit.
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