



MANAGING HEALTH INEQUALITIES - REVIEW OF DATA ON SERVICES FOR PATIENTS WITH LONG TERM RESPIRATORY CONDITION

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Scope of presentation

This paper is on health inequality, illustrating with review of data of services for individuals with long term respiratory condition.

What is health inequalities

Health inequities are biased and preventable variances, systematic differences in the health status across the population, and between groups within society.

World Health Organisation (2018)

NHS England (2024)

Some causes of health inequalities

Availability of services in local area

Service opening times

Mental health challenges

Social circumstances e.g. homelessness, access to childcare

Transport

Language (spoken and written)

Literacy

Poor experiences in the past

Misinformation

Fear

Some reported incidences of Health inequality

Pulmonary Rehabilitation is evidenced to improve quality of life, activity tolerance and survival, reduce frequency and length of admission. Yet only 43% of eligible patients were referred in 2019/20 (Griffiths, 2000; Seymour et al, 2010; Takforce for Lung Health, 2021)

Rehabilitation following a stroke can reduce the risk of recurrence by 35%, enable return to function and independence. Yet 20% of eligible patients miss out needed treatment in first 5 days and 68% fail to have post hospital discharge assessment (Bernhardt et al, 2009; Royal College of Physician 2018)

70% of MS people were unable to access rehabilitation when needed and 34% reported their MS symptoms got worse, lost mobility, confidence and independence.(Cavander-Attwood et al, 2020)

Approaches to managing health inequalities

Services inclusively

Mitigating against digital exclusion

Ensuring complete and timely datasets

Enhancing preventative programmes

Consolidating leadership and accountability.

Review of Pulmonary Rehabilitation For Patients with Long Term Respiratory Conditions

Pulmonary rehabilitation (PR) is evidence based programme of exercise and self management education beneficial for individuals with long term respiratory condition in improving exercise tolerance and quality of life

For patients with long term respiratory conditions and categorised as 2 or more on the MRC Dyspnea Scale

Exclusion criteria include unstable cardiac condition, neurological, musculoskeletal or other conditions that limit ability to exercise safely

Introduction

Pulmonary rehabilitation (PR) is effective in the management of chronic obstructive pulmonary disease (COPD) patients.

33% of patients referred for PR do not enrol (non-uptake) (Garrod et al., 2006).



Uptake in PR

- Bruton & Ellis-Hill (2006) explored experiences of COPD patients invited to PR (n=20, 45–85 years)
- Key factors enhancing uptake
 - referring doctor (influence and enthusiasm of)
 - belief in, the benefits of the intervention.



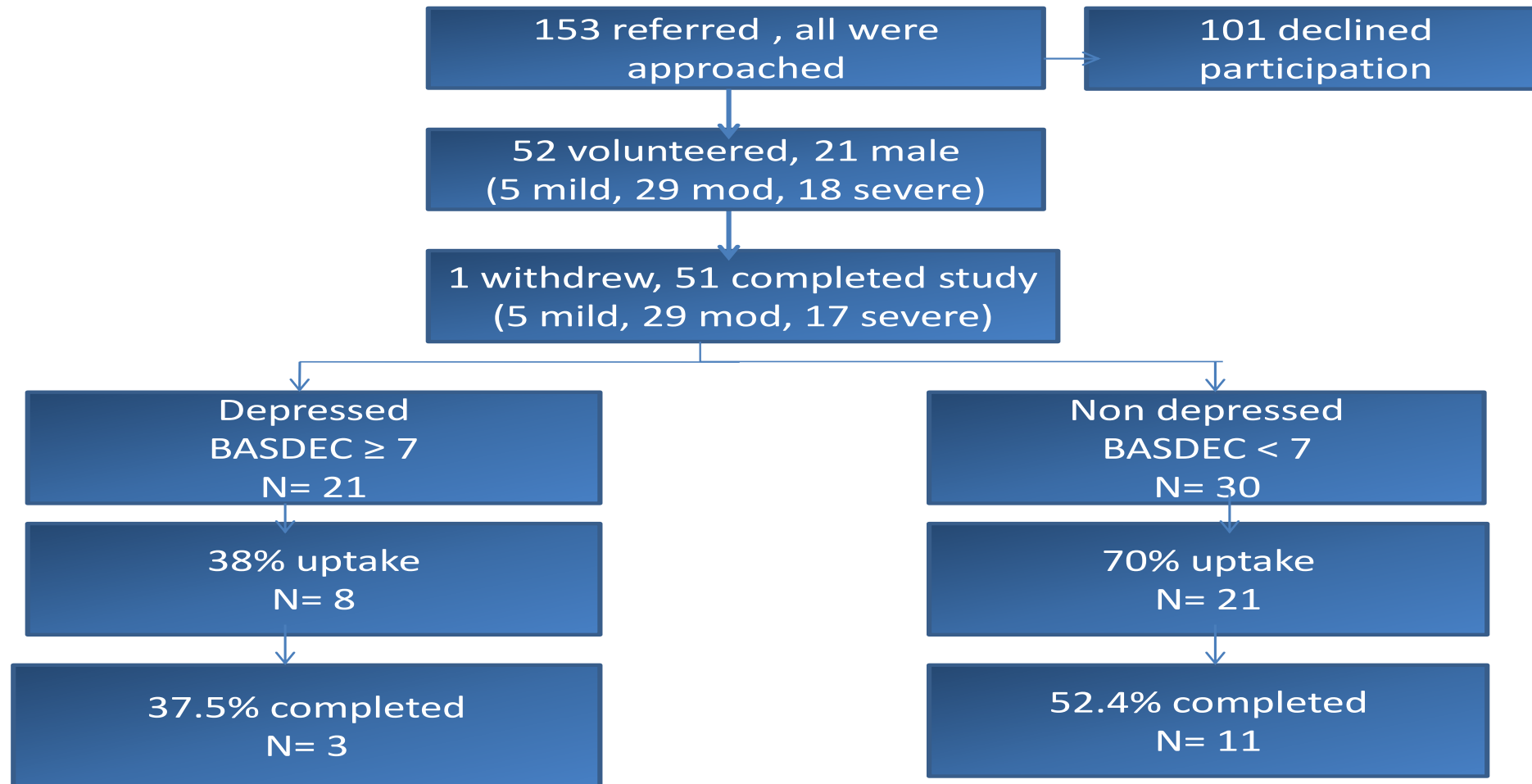
Factors impacting on adherence

- a sense of group support, and increased self-confidence.
- lack of social support at home
- overcoming the challenges of living with COPD in order to attend



		Uptaker	Non-uptaker	Completers	Non-completer
	Non depressed	70%	30%	52.4%	47.6%
	Depressed	38%	62%	37.5%	62..5%

(Adekunle, Watson & Schreuder, 2017)



Relationship btw depression & uptake & completion (cont...)

- Presence of depression in COPD has moderate, statistically significant association ($p=0.02$) with uptake. (Adekunle, Watson and Schreuder, 2017)
- No significant correlation between uptake & domains of MHLC, DSSI or MRC ($p>0.005$). (Adekunle, Watson and Schreuder, 2017)
- Depression is a significant and independent risk factor for drop-out and poor exercise performance in patients with COPD (Garrod et al. 2006; Al-shair et al. 2009; Spruit et al. 2010)

Recommendation to manage inequality

Assessing depression status at point of referral or initial assessment & progressing management if required
CONCURRENTLY with PR.

Factors affecting attendance

- Keating et al (2011b); adults with COPD who declined PR (n=19) vs who had not completed PR (n=18)
 - health belief (lack of belief in PR)
 - travel challenges as barriers to uptake and drop out



Factors affecting attendance (cont..)

- Oates et al., (2019) ; 5 focus groups, n=24
- Themes identified as
 - Health limitations,
 - social support,
 - transportation and financial difficulties
 - program features



Major factors influencing drop-out (completers n=449, 57.1%) (Boutou et al)2014)

Table 2 Univariate differences between completers and non-completers

Characteristics	Completers	Non-completers	p Value
Age (years)	68.9±10.2	67±10.9	<i>0.013</i>
Sex (%)			
Male	56.7	43.3	0.894
Female	57.4	42.6	
BMI (kg/m ²)	27.1±6.4	26.6±6.7	0.331
FEV ₁ (%predicted)	51.9±20.7	46.6±17.8	<i>0.006</i>
FEV ₁ /FVC	46.6±13.8	45.6±13.9	0.740
Pre-ISWT (m)	264.9±148	249.2±147	0.164
Pre-6MWT (m)	246.8±99	229.2±109.1	0.175
Pre-CAT	20±7.8	22.3±8.2	<i><0.001</i>
Pre-CRDQ_Total	15.2±4.4	13.2±4.5	<i><0.001</i>
Pre-CRDQ_D	2.9±1.3	2.7±1.2	0.165
Pre-CRDQ_E	4.3±1.4	3.7±1.5	<i><0.001</i>
Pre-CRDQ_F	3.8±2.1	3±1.3	<i><0.001</i>
Pre-CRDQ_M	4.6±1.7	3.8±1.4	<i><0.001</i>
Pre-HAD-A	7.1±4.6	8.9±4.8	<i><0.001</i>
Pre-HAD-D	6.4±4	7.8±4.2	<i><0.001</i>
Pre-MRC	3.2±0.9	3.4±0.9	<i>0.001</i>

Italics indicate significant p values (<0.05).

6MWT, 6 min walking test; BMI, Body Mass Index; CRDQ, Chronic Respiratory Disease Questionnaire; CRDQ_D, CRDQ Dyspnoea domain; CRDQ_E, CRDQ Emotional function domain; CRDQ_F, CRDQ Fatigue domain; CRDQ_M, CRDQ Mastery domain; FEV₁, Forced Expiratory Volume in 1 s; FVC, Forced Vital Capacity; HAD, Hospital Anxiety (A) and Depression (D) Scale; ISWT, Incremental Shuttle Walking Test; MRC, Medical Research Council Dyspnoea Scale; PR, Pulmonary rehabilitation.

Conventional Pulmonary Rehabilitation versus Pulmonary Tele- rehabilitation

- (Hansen et al, 2020) n=134, 74 females
- Drop-out 36% in the conventional PR was comparable to that in pre-existing studies; (>50%)
- Completion was significantly higher in the PTR (pulmonary tele-rehabilitation) group than in the PR (pulmonary rehabilitation) group ($p < 0.01$)
- Adherence (attendance $\geq 70\%$ of sessions) is not significantly difference (PTR - 73%) vs (PR=62%)

Conventional Pulmonary Rehabilitation versus Pulmonary Tele- rehabilitation (cont..)

- No between-group differences for changes in 6MWD at 10wk or 22wk follow up (95% CI)
- PTR group had a significant reduction in CAT, HADS-A and HADS-D compared with PR group
- Reduction did not exceed the MCID
- Difference was lost at 22wk follow-up (Hansen et al, 2020)
- Better outcome in HADS observed in favour of PTR group agrees with result of Tsai et al (2017) but conflicts with that of Bourne et al, 2017 and Chaplin et al, 2017 which reported no between group diff

**Conventional
Pulmonary
Rehabilitation
versus
Pulmonary
Tele-
rehabilitation
(cont..)**

Limitations in (Hansen et al, 2020)

- Only 1/3 of eligible patients participated in the RCT (questioned external validity).
- Strength: a multi-centre RCT
- Supervised PTR was not superior to supervised conventional PR



Strategies relevant to enhanced participation

- Emphasis of training on appropriate referral
 - GP Surgeries
 - acute settings
 - Others
- GPs top list of source of inappropriate referral
- Use of COPD discharge bundle
- Collation of data on inappropriate referrals (basis of rejection, sources of referral)
- Consideration of accessibility to clinics for patients

Recommendations

- Improving participation in PR by
- assessing depression status at point of referral or initial assessment & progressing management if required **CONCURRENTLY** with PR.
- conveying proven benefits of PR at the earliest contact possible (point of referral or initial telephone assessment)

Recommendations (conts...)

- providing flexible program models that facilitates access e.g. rolling programme
- enhancing transport; public and hospital transport
- accommodating co-morbidities (illustration; case of COPD on anti-histamine for Ezcema, unable to drive at peak drug effect, hence consideration of am vs pm times and transport support)
- Future studies are recommended on comparison of effectiveness of virtual PR/PTR and conventional PR

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