MONITORING PHYSICAL HEALTH IN CAMHS INPATIENT CARE

LONGITUDINAL INSIGHTS FROM THE Y-HEALTH STUDY

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Y-Health Physical Health Monitoring Study

BACKGROUND

The "obesogenic" environment

BACKGROUND AND RATIONALE

- Significant physical health inequalities resulting in 15–20-year premature mortality rate
- Physical health problems begin at an early stage, often before/along side mental health difficulties, and persist into adulthood
- Influencing factors include adverse health behaviours, side effects medication, environment and inadequate monitoring of physical health

- 'Obesogenic environment' of inpatient unit
- Early intervention = better preventative care
- Most research done with adults

PREVIOUS RESEARCH

Contents lists available at ScienceDirect

General Hospital Psychiatry

journal homepage: www.elsevier.com/locate/genhospsych

Review article

The clinical and behavioral cardiometabolic risk of children and young people on mental health inpatient units: A systematic review and meta-analysis

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ARTICLE INFO

Keywords:
Metabolic health
Inpatient psychiatry
Youth mental health
Child and adolescent psychiatry
Physical health risk

ABSTRACT

Objective: Serious mental illness is associated with physical health comorbidities, however most research has focused on adults. We aimed to synthesise existing literature on clinical and behavioral cardiometabolic risk factors of young people on mental health inpatient units.

Methods: A systematic review and meta-analysis was conducted, using electronic searches of PsycINFO, EMBASE, AMED, Cochrane Central Register of Controlled Trials, and Ovid MEDLINE. Eligible studies included child/adolescent mental health inpatient units for <25 years, reporting clinical/behavioral cardiometabolic risk factors. Studies containing adult samples, case-studies, or eating disorder populations were excluded. The main clinical outcome was weight, and main behavioral outcome was tobacco use.

Results: Thirty-nine studies were identified (n = 809,185). Pooled prevalence rates of young people who were overweight (BMI > 25) was 32.4% (95% CI 26.1%-39.5%; n = 2789), and who were obese (BMI > 30) was 15.5% (95% CI 4.5%-41.6%; n = 2612). Pooled prevalence rates for tobacco use was 51.5% (95% CI 32.2-70.2; N = 804,018). Early signs of metabolic risk were observed; elevated blood cholesterol, presence of physical health conditions, and behavioral risk factors (e.g. physical inactivity).

Conclusions: This review highlights the vulnerability of young people admitted to inpatient units and emphasises the opportunity to efficiently monitor, treat and intervene to target physical and mental health.

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REVIEW ARTICLE

WILEY

Physical health interventions on adolescent mental health inpatient units: A systematic review and call to action

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Abstract

Aim: Physical health inequalities experienced by people with mental health conditions are labelled an international scandal; due to the 15 to 30-year gap in life expectancy, driven mostly by physical health conditions. Lifestyle interventions are recommended to prevent the onset of poor physical health in people with mental illness. Yet, there is less high-quality evidence for adolescents, particularly those in inpatient settings. We aimed to assess existing literature reporting physical health or lifestyle interventions conducted on adolescent mental health inpatient units.

Method: An electronic search of MEDLINE, PsycINFO, Embase, the Cochrane Central Register of Controlled Trials and AMED was conducted on 13th June 2019. Eligible studies included peer-reviewed English language research articles of physical health interventions delivered within child and adolescent mental health inpatient services. A narrative synthesis was conducted on the data.

Results: Only three studies were identified implementing health interventions for adolescent inpatients. The interventions consisted of two physical health interventions aiming to increase activity levels within routine care (one gym-based, one sports led) and a yoga intervention. Outcome measurements varied and benefits were observed in relation to overall health (HONOSCA), physical health (waist, hip and chest circumference) and behaviour.

Conclusions: Although preliminary results suggest lifestyle interventions may be feasible and beneficial for this group, more work is needed to fully understand the best way to implement these interventions within adolescent clinical settings. Adolescent inpatients are an important target for such interventions, affording the opportunity to prevent the onset of physical comorbidities.

https://doi.org/10.1111/eip.12981

ORIGINAL PAPER

Evaluation of the physical health of adolescent in-patients in generic and secure services: retrospective case-note review

Rebekah Carney,[1,2] Shermin Imran,[3] Heather Law,[1] Siri Folstad,[2] Sophie Parker[1,2]

BJPsych Bulletin (2019) Page 1 of 8, doi:10.1192/bjb.2019.68

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First received 18 Jun 2019, final revision 16 Aug 2019, accepted 21 Sep 2019

Aims and method To assess physical health needs of adolescent in-patie routine monitoring. A retrospective analysis of case notes was conducted o month intake to generic and secure adolescent mental health units in Great Manchester, UK.

Results Fifty individuals were admitted (52% female, average age 15.84 y Diagnoses varied and 66% were prescribed medications before admission. A physical health assessment, which identified various physical health risk fac Average body mass index was 25.99 (range 15.8–44), and increased during patient treatment for 84% of individuals who had their body mass recorde than once. A total of 28% of individuals smoked. Lipids and prolactin levels elevated across the sample.

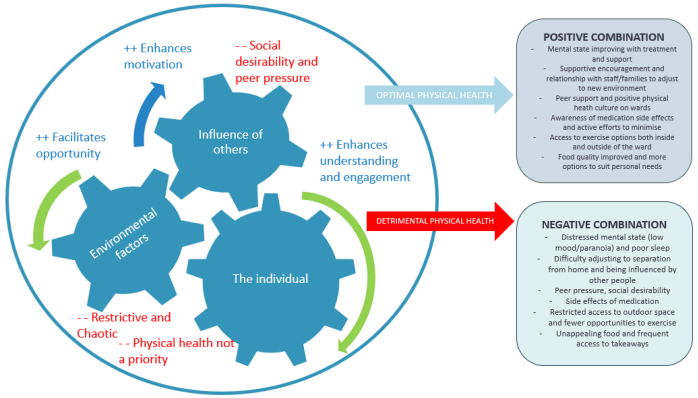
Clinical implications This evaluation strengthens the argument to optimis physical healthcare for adolescent in-patients and develop physical health interventions, particularly given that we observed elevated lipids and prolact Physical health and well-being may not be prioritised when assessing and m young peoples' mental health, despite their increased vulnerability for como conditions.

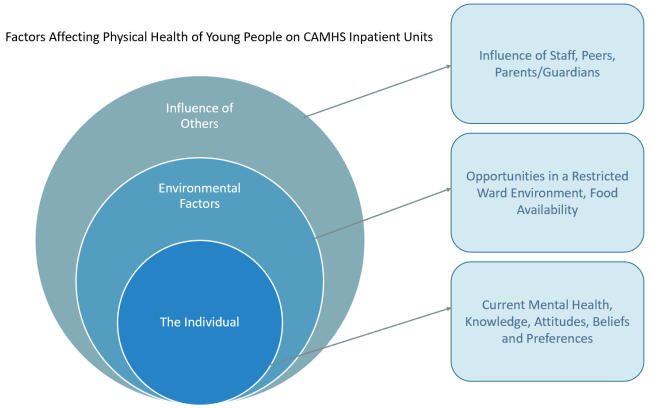
Declaration of interest None.

Keywords Adolescent; in-patient; secure services; mental health; physical

https://doi.org/10.1192/bjb.2019.68

PREVIOUS QUALITATIVE RESEARCH





Carney et al. BMC Psychiatry (2024) 24:498
https://doi.org/10.1186/s12888-024-05858-1

BMC Psychiatry

RESEARCH Open Access

"If you're struggling, you don't really care" – what affects the physical health of young people on child and adolescent mental health inpatient units? A qualitative study with service users and staff

Rebekah Carney[1,2*], Shermin Imran[3], Heather Law[1], Parise Carmichael-Murphy[1,2], Leah Charlton[1,2] and Sophie Parker[1,2]

Abstract

Background Physical health inequalities of people with serious mental illness (SMI) have been labelled an international scandal; due to the 15–20-year reduction in life expectancy associated with poor physical health. This occurs at an early stage and evidence shows young people with and at risk for SMI are a particularly vulnerable group requiring intervention and support. However, most work has been conducted with adults and little is known about what affects physical health for young people, specifically those receiving inpatient care.

Methods We conducted semi-structured qualitative interviews with 7 service users and 6 staff members (85% female, age 14–42) on a generic mental health inpatient unit for children and adolescents. Interviews aimed to identify how young people viewed theirphysical health and factors affecting physical health and lifestyle and identify any support needed to improve physical health. Thematic analysis was conducted. .

Results Thematic analysis revealed the main factors affecting physical health and lifestyle for young people. Three main themes were individual factors (subthemes were mental health symptoms, knowledge, attitudes and beliefs), environmental factors (subthemes were opportunities in a restricted environment and food provision), and the influence of others (subthemes were peers, staff, family members). These factors often overlapped and could promote a healthy lifestyle or combine to increase the risk of poor physical health. Young people discussed their preferences for physical health initiatives and what would help them to live a healthier lifestyle.

Conclusions Promoting physical health on inpatient units for young people is an important, yet neglected area of mental health research. We have identified a range of complex factors which have an impact on their physical health, and there is a pervasive need to address the barriers that young people experience to living a healthy lifestyle. There is an increasingly strong evidence base suggesting the benefits of physical health interventions to improve outcomes,

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EVIDENCE GAP

Y-HEALTH STUDY

Y-Health
Physical Health Monitoring Study

FULL TITLE : Physical health of young people in inpatient mental health services: a 6-month prospective study

CAMHS Inpatient units at 3 different NHS Trusts

- Greater Manchester Mental Health NHS Foundation Trust
- Leeds and York Partnership NHS Foundation Trust
- Humber Teaching NHS Foundation Trust

March 2021-March 2023

NIHR | Applied Research Collaboration Greater Manchester

NIHR | Applied Research Collaboration Yorkshire and Humber

AIMS & RESEARCH QUESTIONS

- Aim: To explore the physical health of YP admitted to adolescent inpatient mental health units and reflect on any differences over the following 6 months

- Research Questions:

1. To assess physical health of young people upon admission to adolescent inpatient services (cardiovascular risk factors e.g. BMI, blood pressure, blood glucose and lipids)
2. To assess current lifestyle behaviours of young people upon admission to adolescent inpatient wards (e.g. physical activity, diet, smoking rates)
3. To assess changes in physical health/lifestyle 3 months and 6 months post-admission
4. To understand the impact of inpatient care environment on lifestyle behaviours and physical health of adolescents admitted to inpatient units
5. To understand the experiences and beliefs about physical health in adolescents admitted to inpatient units
6. To establish the feasibility of monitoring physical health in a cohort of young people upon admission to an adolescent inpatient unit

METHODS

HOW DID WE DO THE STUDY?

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BMC Public Health

- Recruited **young people aged 14+** admitted to CAMHS inpatient units within **6 weeks** of admission to the unit
- The young person needed to be able to give **informed consent** and be well enough to take part (severe anorexia/eating disorder excluded)
- **Physical and mental health assessments** were completed by a researcher in conjunction with the clinical team.
- Assessments completed at three time points;

Baseline (within 6 weeks of admission) → 3-Month Follow Up → 6-Month Follow Up → (Optional interview)

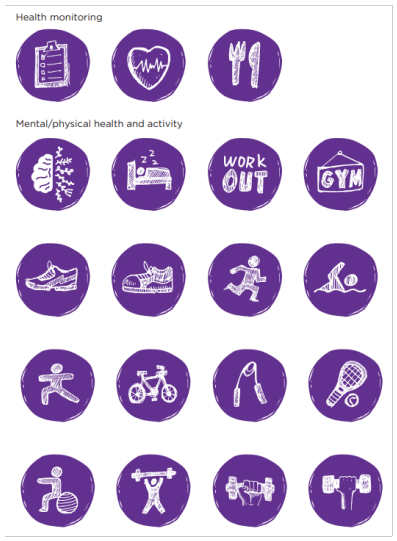
- Participants given **£10 voucher** at each timepoint as a thank you (total £30)

WHAT MEASURES WERE COLLECTED?

- Mixture of routinely collected data taken from case notes and researcher collected data / questionnaires:
  - **Demographic information**, e.g., age, gender, ethnicity, education, diagnoses, previous admissions, medication, length of admission
  - **Physical Health Outcomes**, e.g. BMI (centiles), BP, routinely collected blood tests (random glucose, lipids, etc), ECG
  - **Behavioural Outcomes**, e.g. physical activity levels, smoking status, diet, physical fitness (six-minute walk & questionnaire), substance use, comorbid physical health disorders and concurrent treatments
  - **Mental Health Outcomes**, e.g.. Health of the Nation Outcome Scales for Children and Adolescents (HONOSCA), World Health Organisation Wellbeing Index (WHO-WI)

Y-Health

Physical Health Monitoring Study



NHS
Greater Manchester Mental Health
NHS Foundation Trust

Y-Health

Physical Health Monitoring Study

We are always seeking to improve the service that we offer. We are looking for young people to take part in a study about Physical Health!

Are you aware that your physical health and mental health are linked?

Taking care of your physical health will help to care for your mental health. However, we need more information! We want to hear from you about your lifestyle and physical health.

What does the study involve?

Some physical and mental health assessments on three occasions: within six weeks of your admission, then after three months and six months (even if you are no longer on the unit)

An optional interview about your experiences and beliefs about physical health

Whether you choose to be involved in this study or not, your usual care will not be affected in any way.

How can I find out more?

To discuss taking part in this study, please contact:

Olivia Harrison (Research Assistant)
Olivia.Harrison@gmmh.nhs.uk
Rebekah Carney (Chief Investigator)
0161 358 6595
Rebekah.Carney@gmmh.nhs.uk

Please note that if you decide to take part we will need to inform your care provider (e.g., your GP or clinician).
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The views expressed are those of the authors and not necessarily those of the NIHR, the NHS, or the Department of Health.

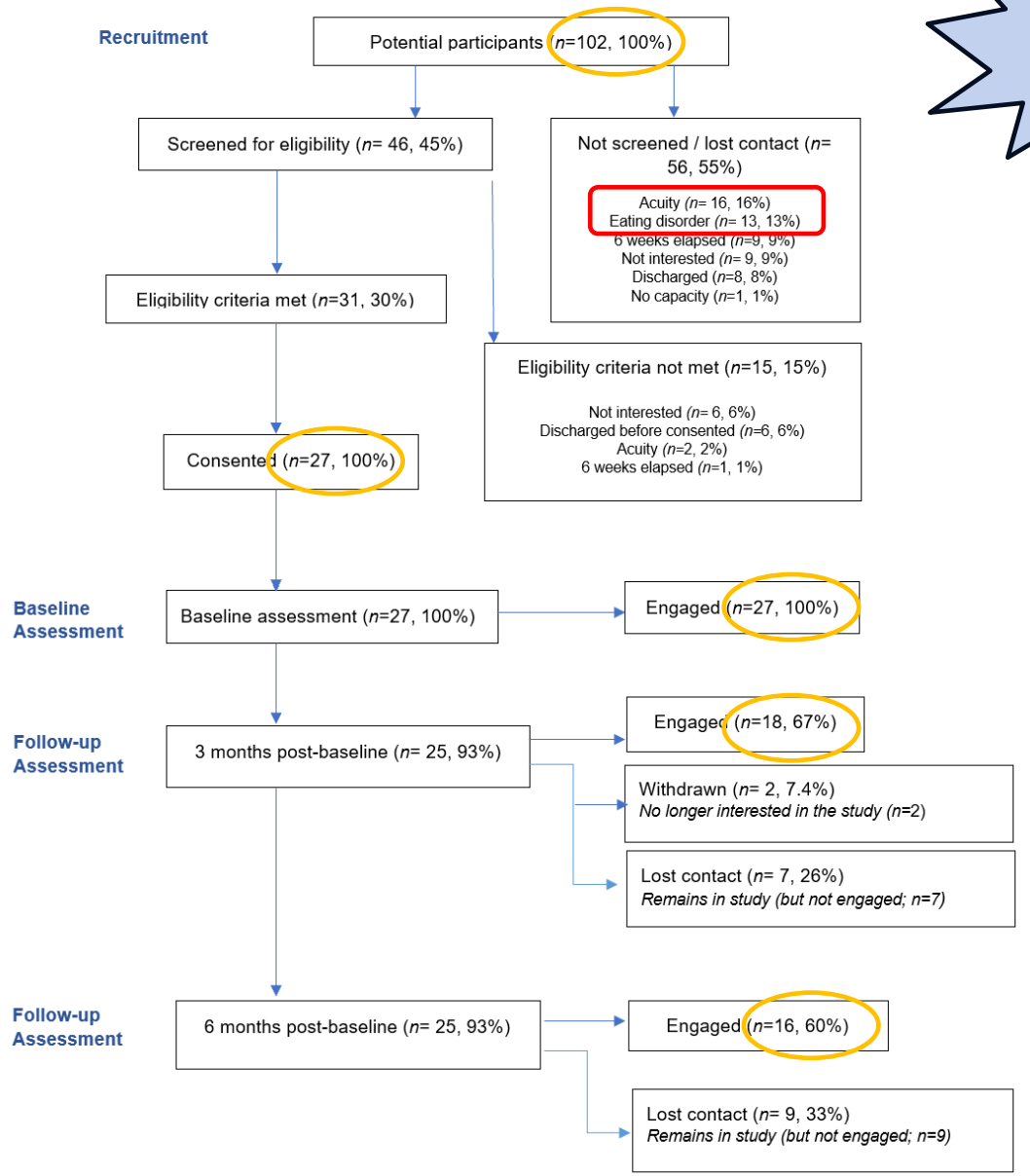
Funded by NHS National Institute for Health Research

KEY FINDINGS

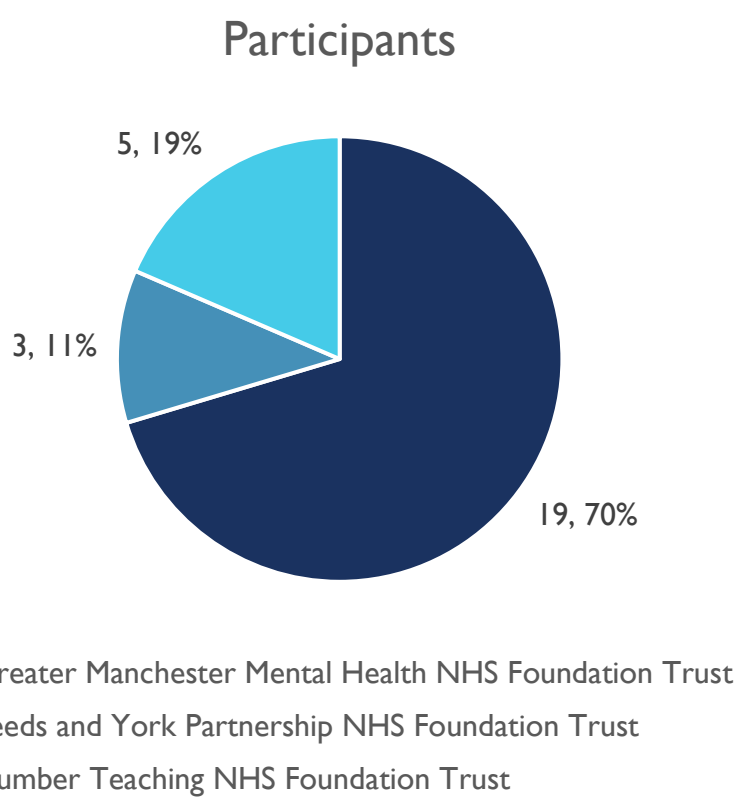
PARTICIPANT FLOW CHART

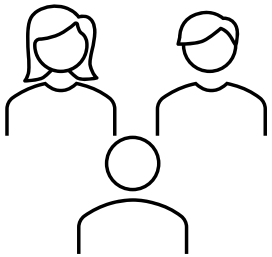
Admissions significantly lower post-pandemic

Figure X: Y-Health Recruitment Consort Flow Chart

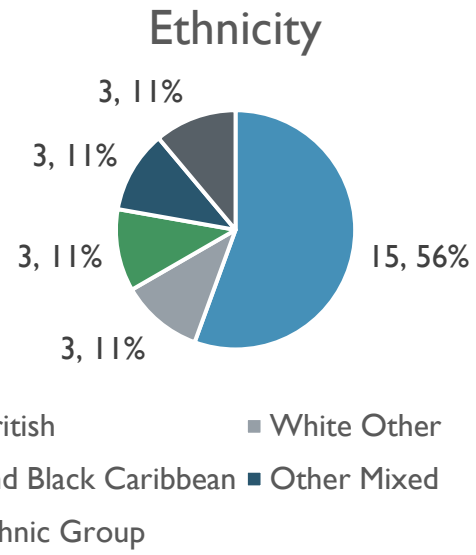


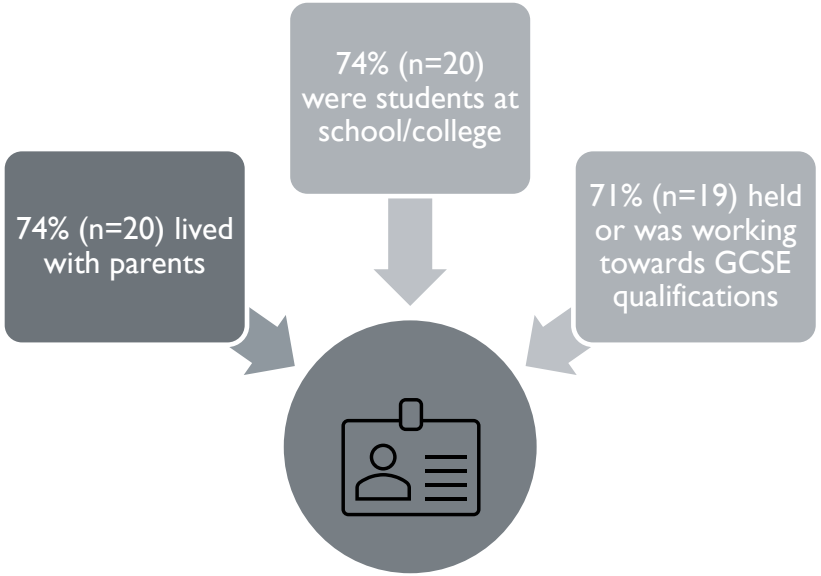
PARTICIPANTS





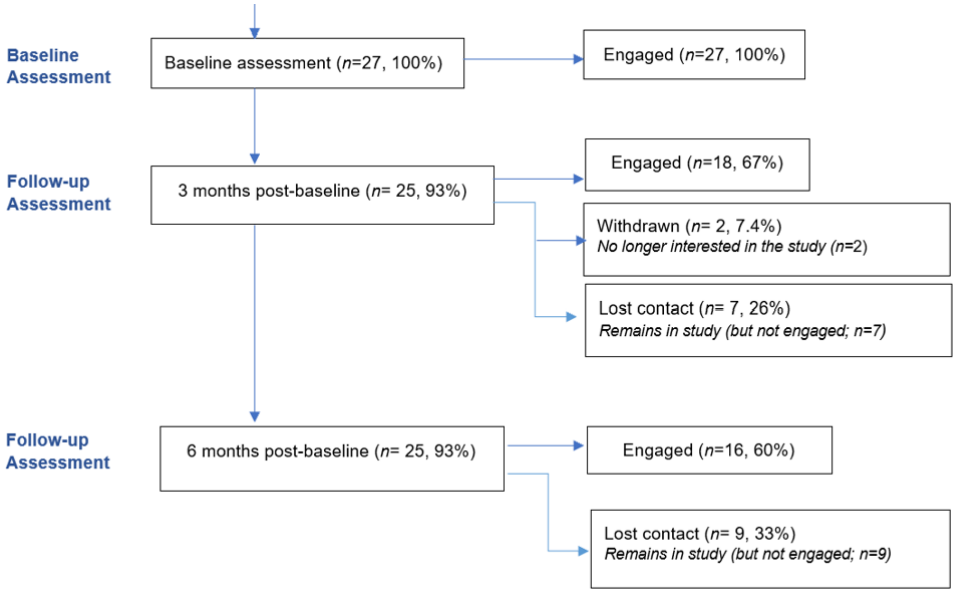
Female: 70%, n=19
Male: 22%, n=6
Non-binary: 8%, n=2

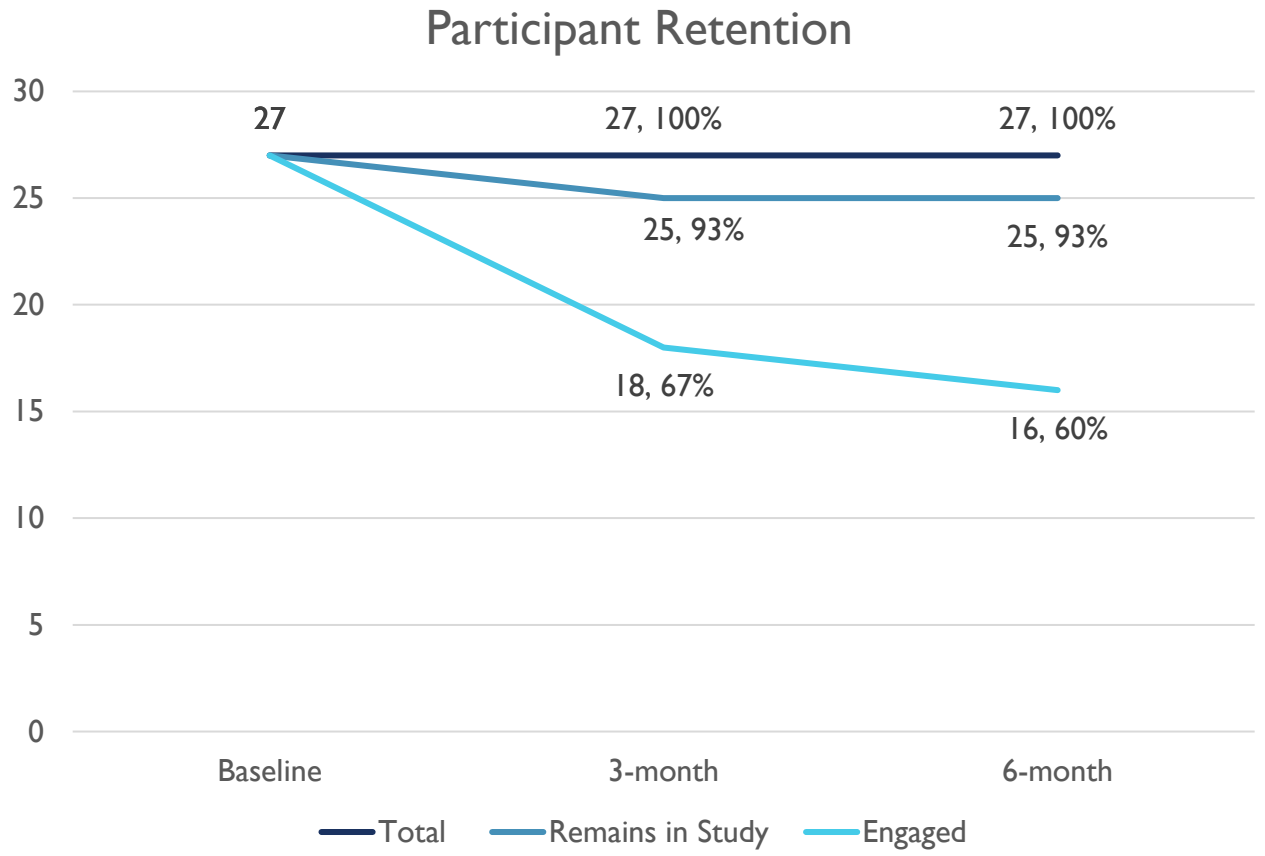




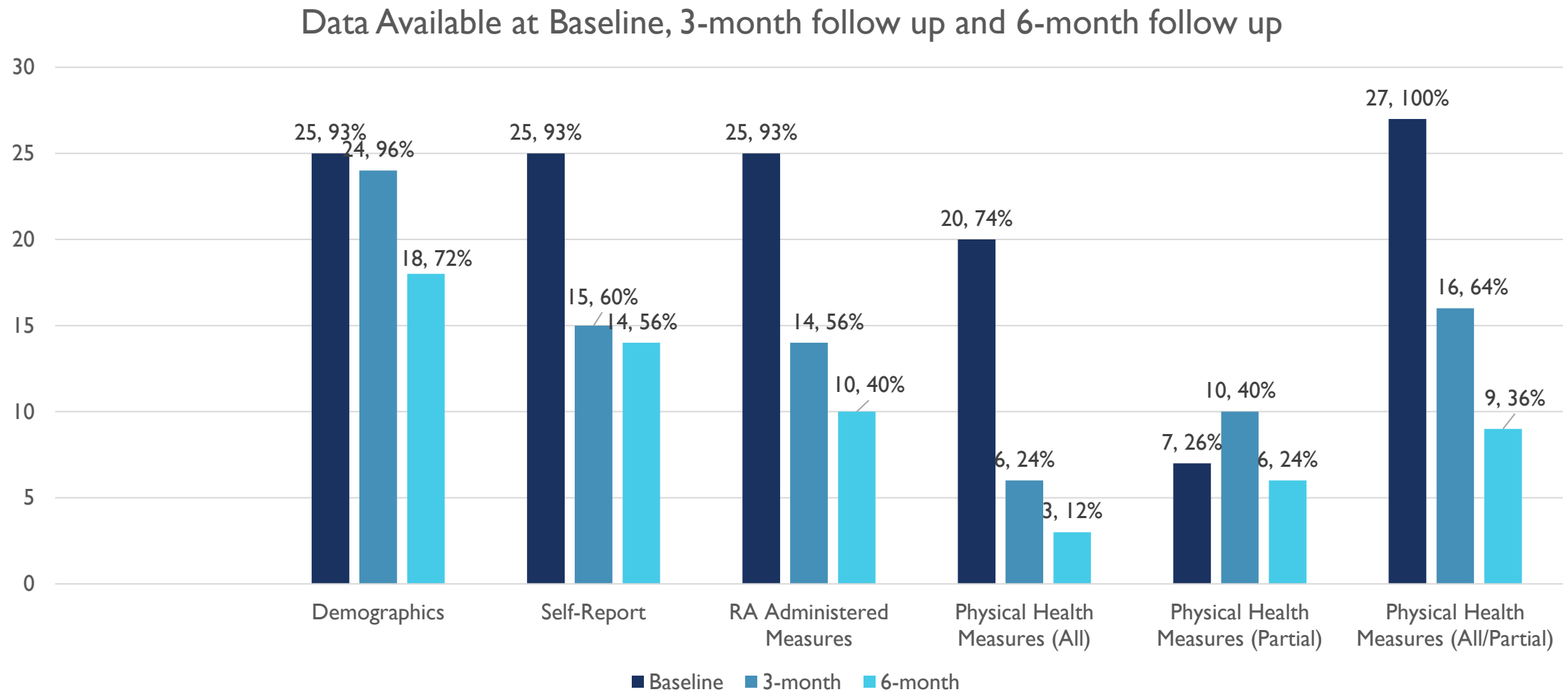
Average age 16.1 years

PARTICIPANT RETENTION





COMPLETENESS OF DATA



DIAGNOSTIC INFORMATION

Mood disorders (n=13, 48%)

Disorders associated with stress (n=11, 41%)

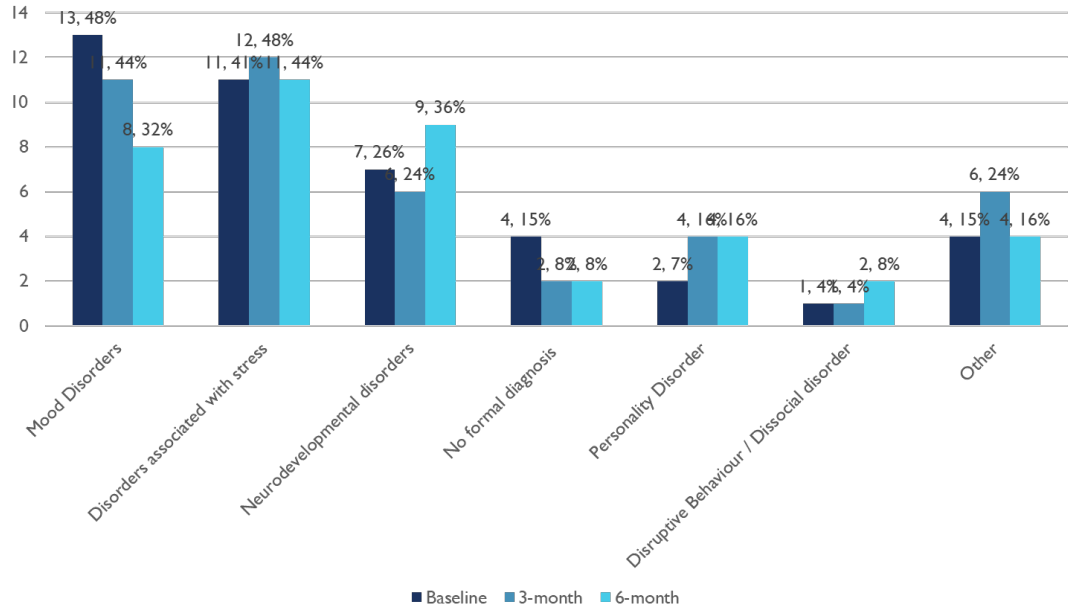
Neurodevelopmental disorders (n=7, 26%)

No formal diagnosis (n=4, 15%)

Personality disorder (n=2, 7%)

Other (n=5)

First admission for 78% young people



Other included: Psychotic disorder, feeding disorder, sleep-wake disorder, substance abuse, anxiety or fear related disorder, gender incongruence, obsessive compulsive or related disorder, toxic or drug related embryo fetopathies

MEDICATION AT TIME OF ADMISSION

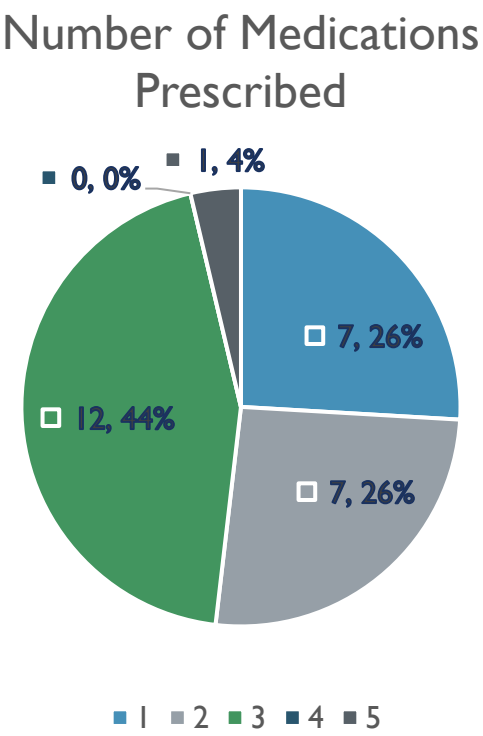
Antipsychotic n=14 (52%)

Antidepressant n=14 (52%)

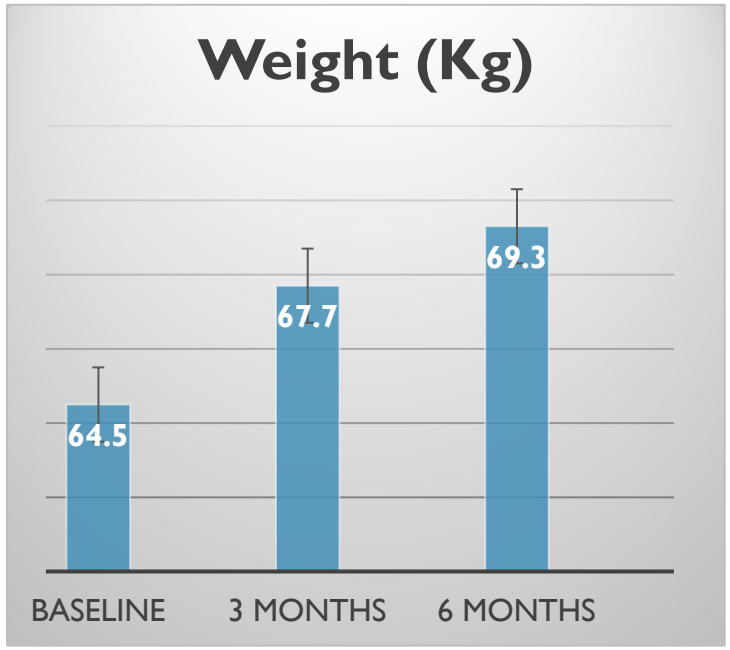
Antihistamines n=14 (52%)

Melatonin n=6 (22%)

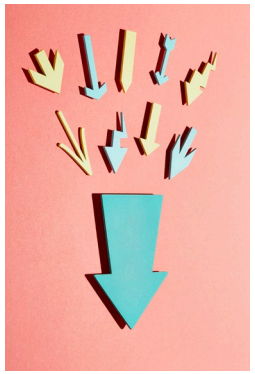
Hypnotics/anxiolytics n=4 (15%

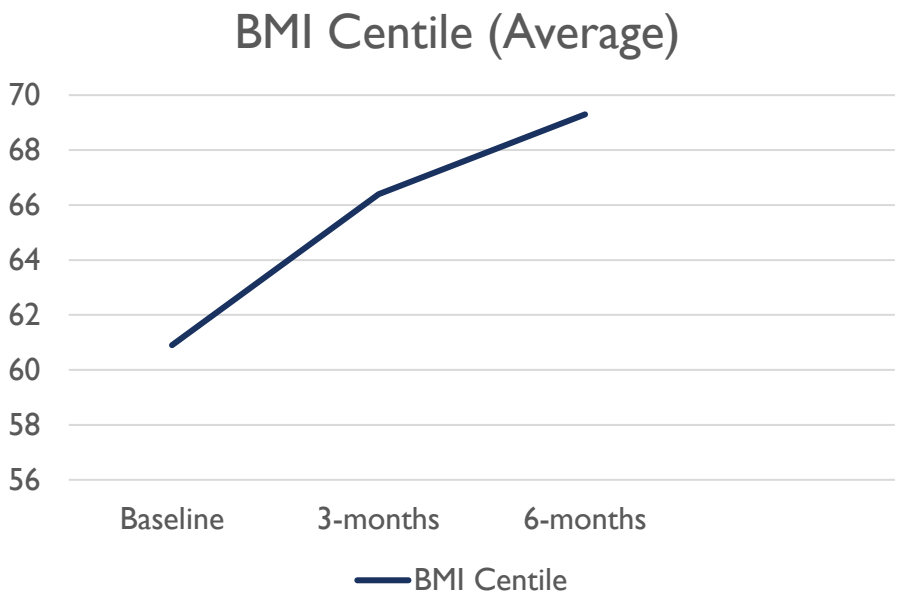


WEIGHT / BMI



37% classed as overweight or obese (26%) on admission



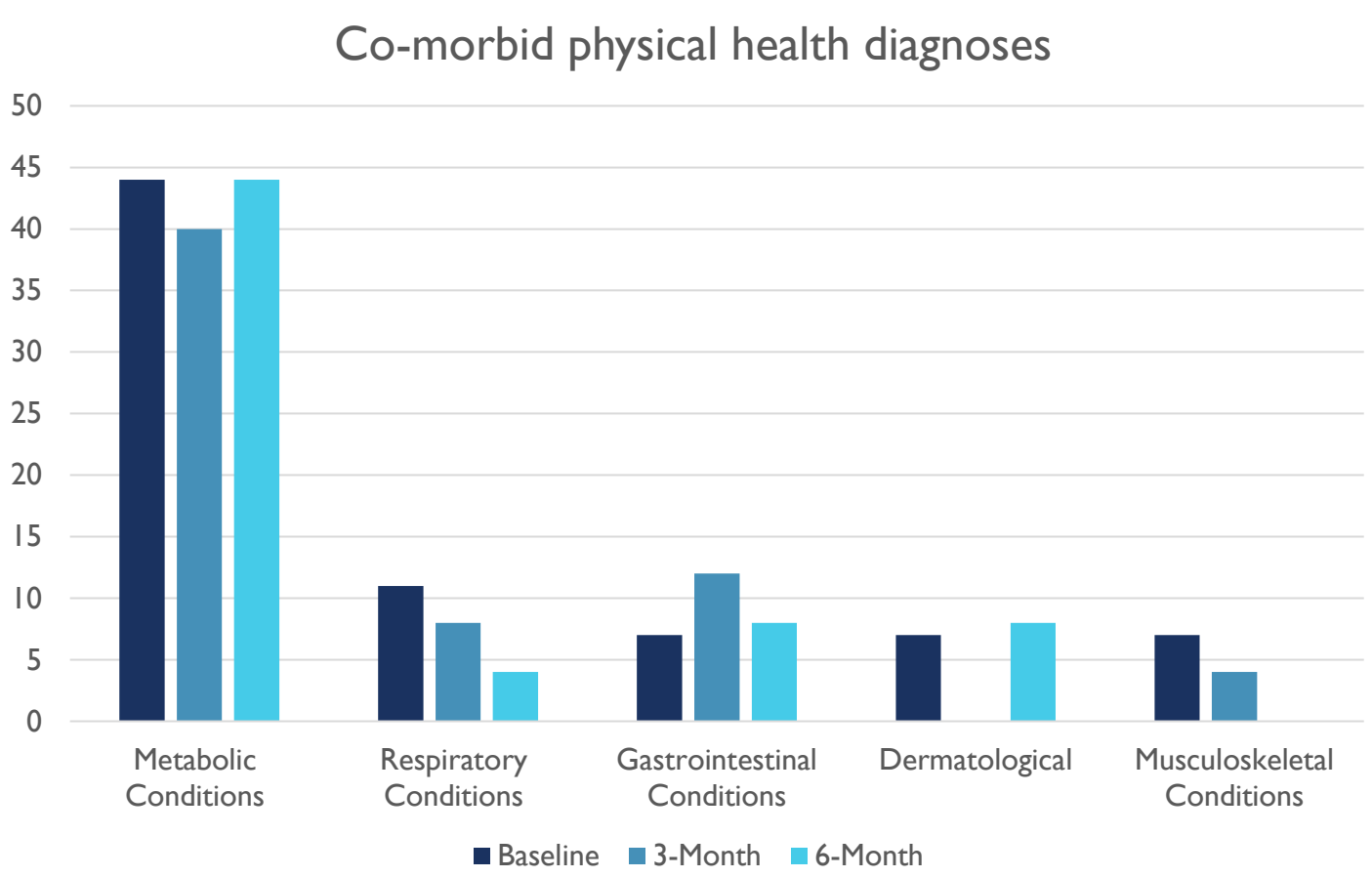


50% classed as overweight or obese (33%) at follow-up

BODY COMPOSITION

	Baseline		3 Months		6 Months	
	N	%/mean ± SD	N	%/mean ± SD	N	%/mean ± SD
N (%)	27	100	24	100	25	100
Weight (Kg)	27	64.5±16.0	10	67.7±19.5	18	69.3±16.6
Height (cm)	27	166.1±9.0	15	165.5±8.0	19	166.7±8.7
BMI(Kg/m2)	27	23.3±5.1	10	24.7±6.1	18	24.7±5.0
BMI centile	27	60.9±35.2	10	66.4±40.6	18	69.3±34.3
BMI category(Kg/m²)						
<18.5	6	22.2	2	20	2	20
18.5-25	13	48.2	3	30	3	30
25-30	4	14.8	2	20	2	20
>=30	4	14.8	3	30	3	30
Waist circumference (cm)	5	86.1±12.7	2	98.1±8.6	5	80.8±16.1

CO-MORBID PHYSICAL HEALTH DIAGNOSES



- 44% of individuals had a diagnosed or recorded metabolic condition at baseline (e.g. dyslipidemia, diabetes)
- Many also displayed risk factors for metabolic ill-health such as increased blood pressure, elevated lipids, tachycardia.

FINDINGS

- Low levels of exercise and physical activity
- Poor dietary intake
- Emerging physical health risks e.g. blood pressure
- Cognitive impairments e.g. poor concentration

- High levels of low mood and anxiety
- High levels of self-harm
- Impaired relationships with others
- Difficulties engaging with education

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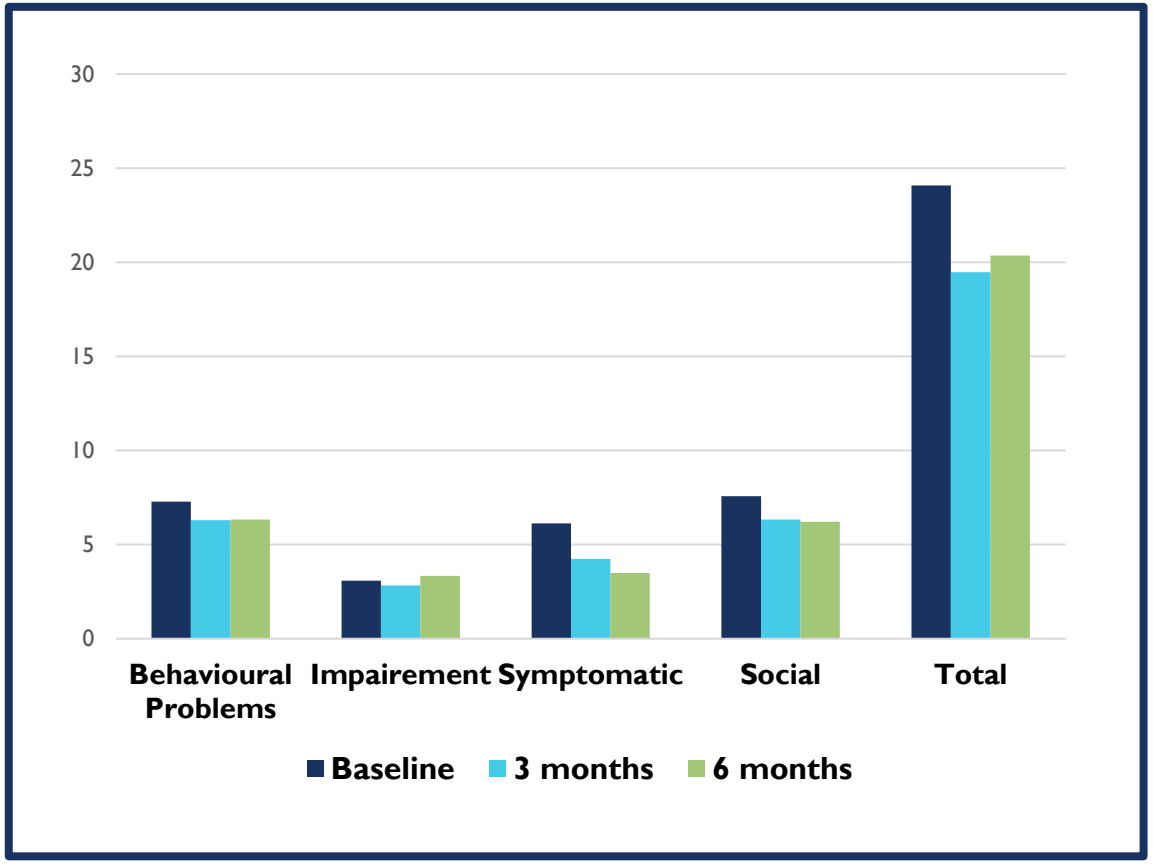
LIFESTYLE FACTORS

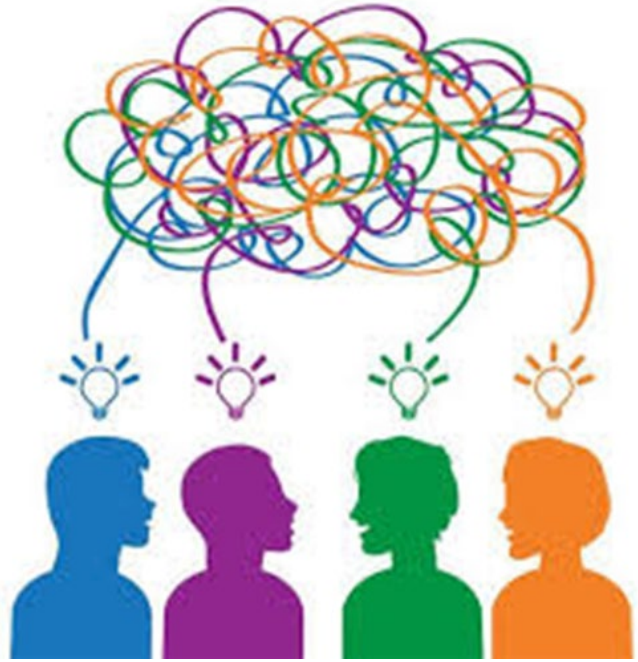
- Low levels of physical activity (average 20 mins sport and 1 hour walking per day)
- High levels of sedentary behaviour
- Most common substances used were alcohol (n=11, 44%), tobacco (n=10, 40%) and cannabis (n=6, 25%)
- Most YP self-reported average fitness levels
- Consumed on average 1.8 meals per day (ranged from 1-5)

HEALTH OF THE NATION OUTCOME SCALES FOR CHILDREN AND ADOLESCENTS (HONOSCA)



- 80% lack of concentration (68% severe)
- 75% self-harmed
- 56% difficulties with relationships at home (30% severe)
- 88% anxious or low mood (44% severe)
- 64% impairments with educational ability
- 64% stopped attending education

QUALITATIVE STUDY



- Interviews conducted with 7 participants
- 71.4% (n=5) females
- Age 15-19 (average 17.3)
- Ranged between 31-46mins
- User input to the topic guide
- AIM:
  - To understand impact of inpatient environment on lifestyle and physical health
  - To understand experiences and beliefs about physical health and physical health care on CAMHS inpatient units

Y-HEALTH THEME MAP

SOURCES OF SUPPORT

Young people mentioned various people/ avenue for support regarding their health. These either encouraged healthy lifestyle or provided advice to manage a healthy lifestyle

Professional support: YP mentioned how they were unlikely to gravitate towards professional support and more likely rely on family, friends or online

Staff support: Staff encouragement is key. Staff played a big part in how likely they were to engage in physical activity and eat healthily on the ward

Family support: YP mentioned how their family support their healthy lifestyle

Peers: Both positive and negative impacts as complex relationships when managing mh

ONLINE: A huge focus on utilising online resources to monitor and gather advice

FACILITATORS

What helped them maintain a healthy lifestyle and what was an important influence

Routine: Busy and varied routine helps keep physical health on track

Working towards a goal: Easier to stick to and provides motivation

Motivation - closely linked with mood

Encouragement: staff, peers, family

Mood and MH symptoms: if mood is better, YP are more likely to lead a healthy lifestyle

AUTONOMY

YP valued the opportunity to take responsibility for their own care, however also wanted encouragement and support

Independence

Choice over treatment lack of options other than medication

Responsibility for own care - Pros and cons

ENVIRONMENT

YP opportunity and facilities around them and how this impacts their ability to stay healthy or improve their lifestyle

Ward: restricted lack of nutritional food Peers both positive and negative routine

Community: More freedom, easier to eat healthy, access to

MONITORING

Young people had a general positive opinion of physical health monitoring and were happy to engage in things such as being weighed and attending health apts

Professional monitoring: Happy to engage in professional monitoring YP preferred this option to self monitoring

Overall positive opinion of physical health monitoring

Good to monitor progress and work towards a goal

Comfortable attending PH apt to monitor current physical health such as weight/ bloods

KNOWLEDGE

YP knowledge of healthy eating, exercise, and leading a healthy lifestyle was good.

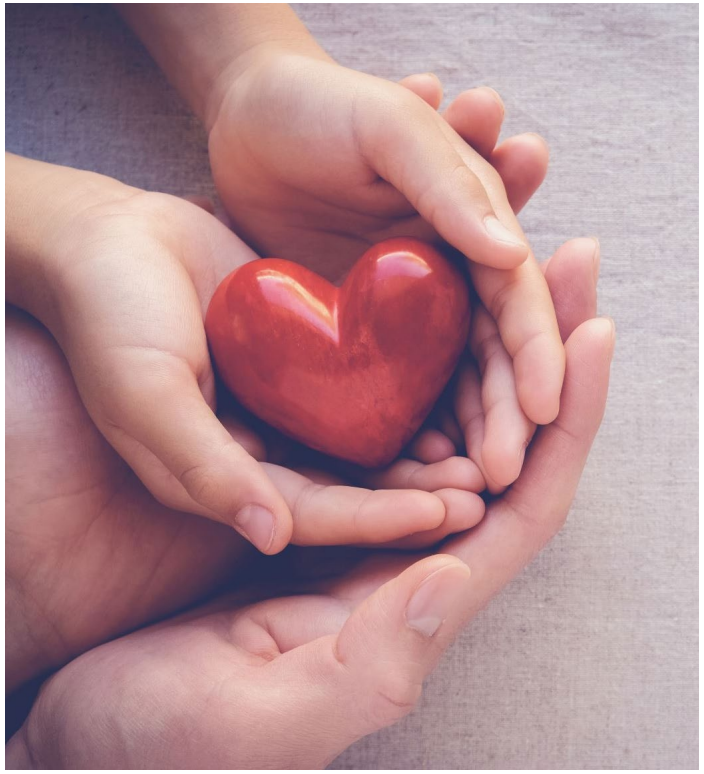
Healthy eating and healthy lifestyle, and knowledge of how to improve

Knowledge of benefits of exercise both on PH and mental health symptoms

Knowledge of medication and side effects

Importance of sleep, and balance

CLINICAL IMPLICATIONS



- **Worsening Physical Health Trends**
  - Over 6-months, young people showed increased rates of overweight, obesity and metabolic risks.
  - Consistently poor physical health behaviours e.g. physical activity levels.
- **Challenges with Physical Health Monitoring**
  - Monitoring of physical health in CAMHS is inconsistent and often overshadowed by mental health priorities across both inpatient and community settings.
- **Barriers Post-Discharge**
  - Care post-discharge showed poor continuity, and declining physical health data collection, less routinely available data and confusion over who is responsible for physical health care.
  - Important considering the high levels of psychotropics prescribed.
- **Need for Systemic Improvements**
  - Staff often lack confidence, training and time to address physical health, highlighting the need for systemic change.

CLINICAL IMPLICATIONS: RECOMMENDATIONS

- **Rigorous Routine Physical Health Monitoring**
  - Embed regular checks of physical health of weight, metabolic markers, cardiorespiratory fitness in standard practice for all young people in CAMHS, especially during transition and discharge.
  - Rigorous monitoring of psychotropic medications and side effects.
- **Enhanced Staff Training**
  - Introduce dedicated physical health champions and targeted training to improve staff confidence and care consistency.
- **Co-designed Interventions**
  - Engage young people and families in designing interventions to ensure acceptability and tailored support.
- **Strengthened Discharge Planning**
  - Involve paediatricians and GPs to create clear pathways for ongoing physical health care and treatment plans post-discharge.

THANK YOU FOR LISTENING

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Y-Health
Physical Health Monitoring Study

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