

# Best Evidence Summaries of Topics in Mental Healthcare

**BEST in MH** *clinical question-answering service*

## Question

For people with serious mental health conditions, how effective is providing general healthcare advice, compared with treatment as usual, in improving physical health factors\*?

## Clarification of question using *PICO* structure

*Patients:* People with serious mental health conditions  
*Intervention:* General healthcare advice  
*Comparator:* Treatment as usual  
*Outcome:* Physical health factors\*

\*Includes physical health outcomes, physical health awareness, physical health behaviour, quality of life, socioeconomic status, and reduction of adverse events, service use and financial dependency.

## Plain language summary

There is not enough research evidence to make definite conclusions on whether general physical healthcare is beneficial to people with mental health conditions. More research is needed to fully understand this area.

## **Clinical and research implications**

No definite clinical implications may be made based on the evidence presented in this BEST summary. The authors of a systematic review stated that 'clinicians should know there is some randomised evidence that the provision of general physical healthcare advice to people with serious mental illness may improve health-related quality of life', but 'there is little evidence that providing physical healthcare advice is an effective way of improving the physical health of people with serious mental illness'. The study authors of more recent studies have suggested, however, that health promotion activities should be used alongside usual treatment in the daily care of individuals with mental disorders. One of the authors also suggested that further research is needed to examine the effectiveness of health promotion interventions in different settings, and that research is also needed to determine effective methods of motivating individuals with mental disorders to participate in such programmes.

## **What does the evidence say?**

### ***Number of included studies/reviews (number of participants)***

One systematic review (SR) (Tosh et al. 2014) and two cluster randomised controlled trials (RCTs) (Hjorth et al. 2014; Verhaeghe et al. 2013) met the inclusion criteria for this BEST summary.

### ***Main findings***

The aim of the SR by Tosh et al. (2014) was to evaluate the effects of general physical healthcare advice for people with serious mental illness. The search was conducted in October 2012, and seven RCTs were included in this review. Of these, six studies evaluated physical care advice versus standard care. The SR authors reported that there was limited and poor quality evidence that providing general physical healthcare advice may improve mental components of health-related quality of life (QoL), but not physical components of health-related QoL. There was no indication that physical health advice had any effect on death. There was evidence from one study that uptake of ill-health prevention services was significantly greater in the advice group, and another study found that more people who received health advice attended primary care appointments. Regarding economic outcomes, one study included in the review found no significant differences between the groups for general health service expenses, although the data were skewed.

The systematic review also found that studies comparing different types of healthcare advice (2 studies) were underpowered and presented equivocal results.

The trial by Hjorth et al. (2014) evaluated the impact of 'active awareness' (see data extraction for details) on a number of physical outcomes (i.e. measures of body size and fat, cholesterol levels, fasting glucose) in severely mentally ill patients. After 12 months, no significant differences were observed between those who received this intervention and those who did not. When the authors conducted a linear regression analysis for weight circumference, however, (controlling for cluster randomisation, sex, age, and body fat), there was a significant difference between the intervention group compared to the control group (-3.1 cm [95% CI -5.39 to -0.81]),  $p=0.02$ .

The trial by Verhaeghe et al. (2013) examined the effectiveness of an intervention promoting physical activity and healthy eating, in individuals with mental disorders living in sheltered housing. After 10 weeks, there were significant differences between groups in favour of the intervention for all of the primary outcomes: body weight ( $p=0.04$ ); BMI ( $p=0.04$ ); waist circumference ( $p<0.01$ ) and fat mass ( $p<0.01$ ). When regression analyses were conducted, the significant differences in changes

in weight and BMI between the groups disappeared after controlling for duration of stay in sheltered housing, and SGA drug use, but remained significant for changes in waist circumference and fat mass. Of eight secondary outcomes (Total physical activity (PA), moderate PA, vigorous PA, walking PA, pedometer determined steps/day, SF36 physical component score, SF36 mental component score, Brief Symptom Inventory Positive Symptom Total) only pedometer determined steps/day was significantly different between the groups, with mean change from baseline in steps per day increased in the intervention group compared to the control group ( $p < 0.001$ ). The authors found that all improvements disappeared after the intervention ceased.

### ***Authors' conclusions***

Tosh et al. (2014) concluded that “there is some limited and poor quality evidence that the provision of general physical healthcare advice can improve health-related quality of life in the mental component but not the physical component, but this evidence is based on data from one study only.”

Hjorth et al. (2014) concluded that “the intervention had a positive effect on the physical health of the patients measured by a reduction in the increase of waist circumference.”

Verhaeghe et al. (2013) concluded that a 10-week health promotion intervention in individuals with mental disorders resulted in small, but significant reductions in body weight, BMI, waist circumference, and fat mass.

### ***Reliability of conclusions/Strength of evidence***

The SR was generally well-conducted, and the authors' cautious conclusions are likely to be reliable.

The cluster RCTs by Hjorth et al. (2014) and Verhaeghe et al. (2013) were both considered to have a high risk of bias, so that the reliability of their study results are uncertain.

### **What do guidelines say?**

The National Institute for Health and Care Excellence (2014) guideline, ‘Psychosis and schizophrenia in adults: treatment and management’, makes the following comment on the use of general physical health advice for people with serious mental health conditions:

“People with psychosis or schizophrenia, especially those taking antipsychotics, should be offered a combined healthy eating and physical activity programme by their mental healthcare provider” (p11)

## **References**

### ***Systematic reviews***

1. Tosh, G., Clifton, A. V., Xia, J., White, M.M. (2014). General physical health advice for people with serious mental illness. *Cochrane Database of Systematic Reviews* 2014, 3. DOI: 10.1002/14651858.CD008567.pub3.

### **Randomised controlled trials**

2. Hjorth, P., Davidson, AS., Kilian, R., Eriksen, SP., Jensen, SOW., Sørensen, HØ., Munk-Jørgensen, P. (2014) Improving the Physical Health of Long-term Psychiatric Inpatients. *Australian & New Zealand Journal of Psychiatry*, 48(9) 861-870.
3. Verhaeghe, N., Clays, E., Vereecken, C., Maeseneer, JD., Maes, L., Heeringen, CV., Bacquer, DD., Annemans, L. (2013) Health Promotion in Individuals with Mental Disorders: A Cluster Preference Randomized Control Trial. *Biomedical Central Public Health*, 13: 657.

### **Guidelines**

National Institute for Health and Care Excellence (2014). *Psychosis and schizophrenia in adults: treatment and management*. National Institute for Health and Care Excellence Guideline 178. <https://www.nice.org.uk/guidance/cg178/resources/psychosis-and-schizophrenia-in-adults-prevention-and-management-35109758952133>

## Results

### *Systematic reviews*

Author (year)	Search date	Inclusion criteria	Number of included studies	Summary of results	Risk of bias
Tosh et al (2014).	October 2012	<p><i>Participants:</i> Adults aged 18-65 diagnosed with a serious mental health condition (defined by the National Institute of Mental Health, 1987), including schizophrenia, schizophrenia-like conditions, bipolar disorder, or serious affective disorders like major depressive disorder.</p> <p><i>Intervention:</i> General physical health advice, involving (i) education, (ii) an aim of preventing physical health problems and (iii) an ethos of self-empowerment. Physical health advice interventions focused on particular conditions were not included.</p> <p><i>Comparator:</i> Treatment as usual, where physical health advice was not specifically emphasised.</p> <p><i>Outcome:</i> Primary outcomes: (i) Physical health awareness and (ii) awareness of behaviours that can contribute to health problems. Secondary outcomes: (i) Physical health behaviour;</p>	7 RCTs (n=1113)	<p><b>Physical health advice versus standard care (6 studies, n=964)</b></p> <p><i>Quality of life:</i> One trial found no difference between groups (n = 54, 1 RCT, MD 0.20, CI - 0.47 to 0.87). Another two found a difference for the Quality of Life Medical Outcomes Scale – mental component (n = 487, 2 RCTs, MD 3.70, CI 1.76 to 5.64), but not for the physical component (n = 487, 2 RCTs, MD 2.46, CI 0.33 to 4.59).</p> <p><i>Death:</i> There was no significant difference between groups (n = 487, 2 RCTs, RR 0.98, CI 0.27 to 3.56).</p> <p><i>Service use:</i> One study found the uptake of ill-health prevention services was significantly greater in the advice group (n = 363, 1 RCT, MD 36.90, CI 33.07 to 40.73) and another study found that significantly more people who received physical health advice attended primary care appointments than those receiving standard care alone (n = 80,</p>	Low (but results not always clearly or fully reported)

		(ii) Physical health; (iii) Quality of life; (iv) Adverse events; (v) use of physical health services; (vi) Financial dependence relating to unemployment or physical disability; (vii) Social status including employment and social isolation; (viii) economic costs (e.g. days off sick from work); (ix) leaving the study early; (x) global state; (xi) mental state, particularly symptoms of schizophrenia. <i>Study designs:</i> Randomised controlled trials.		1 RCT, RR 1.77, CI 1.09 to 2.85). <i>Economic:</i> 'A total (US) dollar value of health resource consumption was determined. These data were skewed but trial authors did not report a significant statistical difference between groups.'  <b>One type of physical healthcare advice versus another (2 studies, n=129)</b> The systematic review authors stated that the results for this comparison were underpowered and equivocal.	
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### **Randomised controlled trials**

<b>Author (year)</b>	<b>Inclusion criteria</b>	<b>Number of participants</b>	<b>Summary of results</b>	<b>Risk of bias</b>
Hjorth et al. (2014)	<i>Participants:</i> Patients cared for in six long-term social psychiatric facilities for severely mentally ill patients in North Jutland, Denmark. To be referred to the facilities, the patients must have extensive mental disabilities. <i>Intervention:</i> The study used an "active awareness" and motivational interviewing approach to increase knowledge and improvement of physical health in people with long-term psychiatric illness. The	6 facilities were randomised (3 to the intervention and 3 to the control group)  97 included and 85	After 12 months, no significant differences were observed between the groups for any of the outcome measures: Waist (cm): mean difference 2.92 (95% CI -0.33 to 6.17); BMI: 0.19 (95% CI -0.81 to 1.19); body fat (%): 1.45 (95% CI -0.28 to 3.19); cigarettes: 3.42 (95% CI -1.45 to 8.29); alcohol: 3.96 (95% CI -1.34 to 9.26); cholesterol (mmol/l): -0.06 (95% CI -0.48 to 0.35); HDL: 0.08 (95% CI -0.47 to 0.31); LDL -0.08 (95% CI -0.47 to 0.31); Triglyceride: -0.10 (95% CI -0.46 to 0.27); fasting glucose: 1.15 (95% CI 0.50 to 1.80), Systolic BP: -1.59 (95% CI -7.68 to 4.51); Diastolic BP: 1.96 (95% CI -2.52 to 6.44); Antipsychotic DDD: -0.14 (95% CI -0.60 to 0.31)	High (It appears that the data collection was not blinded; regression analysis was reported for only one outcome)

	<p>intervention focused on both the individual patient and the staff members. The intervention included:</p> <ol style="list-style-type: none"> <li>1. Focus groups with both patients and staff members separately (each with 5–8 participants). The focus group topics were health problems and methods for improving physical health: (a) health risks/health problems; (b) causes of health problems/common health problems; (c) possibilities for prevention; and (d) preventive measures at own facility.</li> <li>2. Individual sessions between project leaders and research nurses with the patient and staff members to collect index data.</li> <li>3. 3 1.5 hour group sessions, providing information on how to promote smoking cessation among patients.</li> <li>4. 3 group sessions were help with staff about the correct use of antipsychotic medication</li> <li>5. Constant guidance to staff and leaders about ways of maximising patient’s physical activity in daily</li> </ol>	<p>analysed</p>	<p>Linear regression analyses, controlling for cluster randomisation, sex, age, and body fat demonstrated a significant reduction in waist circumference in the intervention group compared to the control group (-3.1 cm [95% CI -5.39 to -0.81]), p=0.02.</p>	
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	<p>life and encouragement to increase activity over time.</p> <p>6. Guidance in terms of health food consumption.</p> <p><i>Comparator:</i> Treatment as usual.</p> <p><i>Outcome:</i> Waist circumference (WC), BMI, bodyweight, lung positive-end expiratory pressure, blood pressure, physical fitness (measured on an exercise bike, one-point test), and tobacco and alcohol consumption, blood glucose, high-density lipoprotein (HDL), low-density lipoprotein (LDL), cholesterol, and triglyceride, electrocardiography, and registration of psychotropic medication.</p> <p><i>Study design:</i> This study was a cluster RCT, with 'facilities' being the unit of randomisation.</p>			
Verhaeghe et al. (2013)	<p><i>Participants:</i> Individuals with mental disorders aged between 18 and 75 years of age living in sheltered housing in the Flanders region (Belgium).</p> <p><i>Intervention:</i> The study period consisted of an intervention period of 10 weeks followed by a post-intervention period of 24 weeks. In addition to treatment as usual, the intervention group received the 10-week health promotion programme (psycho-educational and behavioural group sessions, supervised exercise, and individual support).</p>	25 housing organisations 324 included (I=225, C=99 and 284 analysed)	<p>After 10 weeks, there were significant differences between the intervention and control groups for the primary outcomes:</p> <p>Body weight (-0.35 vs. 0.22 kg, p=0.04); BMI (-0.12 vs. 0.08 kg/m<sup>2</sup>, p=0.04); waist circumference (-0.29 vs. 0.55 cm, p&lt;0.01); fat mass (-0.99 vs. -0.12%, p&lt;0.01)</p> <p>When regression analyses were conducted, the significant differences in changes in weight and BMI between the groups disappeared after controlling for duration of stay in sheltered housing, and SGA drug use, but remained significant for changes in waist circumference and fat mass.</p>	High (SHOs were assigned to treatment or control according to their preference; if no preference expressed, they were

	<p><i>Comparator:</i> Treatment as usual.</p> <p><i>Outcome:</i> The primary outcomes of the study consisted of changes in body weight, Body Mass Index (BMI), waist circumference (WC) and fat mass. Changes in physical activity were assessed using the Dutch version of the self-administered International Physical Activity Questionnaire (IPAQ). The dietary habits of the participants were assessed using an adapted version for adults of an online dietary assessment tool, the 'Young Children's Nutrition Assessment on the Web'.</p> <p><i>Study design:</i> This study was a cluster RCT, with 'sheltered housing organisations' being the unit of randomisation.</p>		<p>Of eight secondary outcomes (Total physical activity (PA), moderate PA, vigorous PA, walking PA, pedometer determined steps/day, SF36 physical component score, SF36 mental component score, Brief Symptom Inventory Positive Symptom Total) only pedometer determined steps/day was significantly different between the groups, with mean change from baseline in steps per day increased in the intervention group compared to the control group (+1256 [SD] 1933 steps/day vs. -426 [2754], <math>p &lt; 0.001</math>).</p>	<p>then randomised)</p>
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## Risk of bias

### Systematic reviews

Author (year)	RISK OF BIAS				
	Inclusion criteria	Searches	Review process	Quality assessment	Synthesis
Tosh et al (2014)					

### Randomised controlled trials

Study	RISK OF BIAS					
	Random allocation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective Reporting
Hjorth et al (2014)			NA			
Verhaeghe et al (2013)			NA			

 Low risk

 High risk

 Unclear risk

## Search details

Source	Search Strategy	Number of hits	Relevant evidence identified
<i>Guidelines</i>			
NICE	serious mental health 'physical health'	59	1
<i>Primary Studies</i>			
MEDLINE	<p>29. Medline; ((serious adj3 (mental adj2 (health adj2 (disorder* OR problem* OR issue* OR disease* OR difficult* OR condition*))))).ti,ab; 288 results.</p> <p>30. Medline; ((serious adj3 (mental adj2 (disorder* OR problem* OR issue* OR disease* OR difficult* OR condition*))))).ti,ab; 745 results.</p> <p>31. Medline; picu.ti,ab; 2594 results.</p> <p>32. Medline; ((psychiatric adj2 (intensive adj2 (care adj2 (unit*))))).ti,ab; 153 results.</p> <p>34. Medline; exp HEALTH EDUCATION/; 144461 results.</p> <p>35. Medline; exp HEALTH PROMOTION/; 61082 results.</p> <p>36. Medline; ((health adj3 (education OR advice OR promotion OR information))).ti,ab; 90069 results.</p> <p>38. Medline; exp HEALTH/; 6874663 results.</p> <p>39. Medline; exp QUALITY OF LIFE/; 136794 results.</p> <p>41. Medline; exp HEALTH BEHAVIOR/; 136270 results.</p> <p>42. Medline; exp ATTITUDE TO HEALTH/; 330371 results.</p> <p>45. Medline; ((physical adj2 health)).ti,ab; 24924 results.</p> <p>46. Medline; (quality ADJ2 of ADJ2 life).ti,ab; 179948 results.</p> <p>47. Medline; ((socioeconomic OR (socio-economic) OR (socio ADJ2 economic)) ADJ2 status).ti,ab; 32944 results.</p> <p>110. Medline; exp MENTAL DISORDERS/; 1171018 results.</p> <p>111. Medline; exp SOCIAL CLASS/; 34526 results.</p> <p>112. Medline; exp SOCIOECONOMIC FACTORS/; 380084 results.</p>	106	

	<p>113. Medline; 29 OR 30 OR 31 OR 32 OR 110; 1173714 results.</p> <p>114. Medline; 34 OR 35 OR 36; 255227 results.</p> <p>115. Medline; 38 OR 39 OR 41 OR 42 OR 45 OR 46 OR 47 OR 111 OR 112; 7170536 results.</p> <p>116. Medline; 113 AND 114 AND 115; 13347 results.</p> <p>117. Medline; 116 [Limit to: Publication Year 2013-2016 and (Document type Clinical Trial or Controlled Clinical Trial or Randomized Controlled Trial)]; 106 results.</p>		
EMBASE	<p>1. EMBASE; exp MENTAL PATIENT/; 21097 results.</p> <p>2. EMBASE; exp MENTAL DISEASE/; 1720897 results.</p> <p>3. EMBASE; ((serious adj3 (mental adj2 (health adj2 (disorder* OR problem* OR issue* OR disease* OR difficult* OR condition*))))).ti,ab; 312 results.</p> <p>4. EMBASE; ((serious adj3 (mental adj2 (disorder* OR problem* OR issue* OR disease* OR difficult* OR condition*))))).ti,ab; 854 results.</p> <p>5. EMBASE; picu.ti,ab; 6012 results.</p> <p>6. EMBASE; ((psychiatric adj2 (intensive adj2 (care adj2 (unit*))))).ti,ab; 192 results.</p> <p>7. EMBASE; 1 OR 2 OR 3 OR 4 OR 5 OR 6; 1733590 results.</p> <p>8. EMBASE; exp HEALTH EDUCATION/; 260791 results.</p> <p>9. EMBASE; exp HEALTH PROMOTION/; 78188 results.</p> <p>10. EMBASE; ((health adj3 (education OR advice OR promotion OR information))).ti,ab; 95708 results.</p> <p>11. EMBASE; 8 OR 9 OR 10; 314059 results.</p> <p>12. EMBASE; exp HEALTH/; 516614 results.</p> <p>13. EMBASE; exp QUALITY OF LIFE/; 342339 results.</p> <p>14. EMBASE; exp LIFESTYLE MODIFICATION/; 25463 results.</p> <p>15. EMBASE; exp HEALTH BEHAVIOR/; 311166 results.</p> <p>16. EMBASE; exp ATTITUDE TO HEALTH/; 89877 results.</p> <p>17. EMBASE; exp SOCIAL STATUS/; 131662 results.</p> <p>18. EMBASE; exp HEALTH ECONOMICS/; 691486 results.</p> <p>19. EMBASE; ((physical adj2 health)).ti,ab; 21964 results.</p> <p>21. EMBASE; (quality ADJ2 of ADJ2 life).ti,ab; 285473 results.</p> <p>22. EMBASE; ((socioeconomic OR (socio-economic) OR (socio ADJ2 economic)) ADJ2 status).ti,ab; 40733</p>	182	

	<p>results.</p> <p>23. EMBASE; 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR 18 OR 19 OR 21 OR 22; 1820325 results.</p> <p>24. EMBASE; 7 AND 11 AND 23; 16080 results.</p> <p>26. EMBASE; 24 [Limit to: (Clinical Trials Clinical Trial or Randomized Controlled Trial or Controlled Clinical Trial) and Publication Year 2013-2016]; 182 results.</p>		
PsycINFO	<p>77. PsycInfo; ((serious adj3 (mental adj2 (health adj2 (disorder* OR problem* OR issue* OR disease* OR difficult* OR condition*))))).ti,ab; 419 results.</p> <p>78. PsycInfo; ((serious adj3 (mental adj2 (disorder* OR problem* OR issue* OR disease* OR difficult* OR condition*))))).ti,ab; 1098 results.</p> <p>79. PsycInfo; picu.ti,ab; 288 results.</p> <p>80. PsycInfo; ((psychiatric adj2 (intensive adj2 (care adj2 (unit*))))).ti,ab; 267 results.</p> <p>82. PsycInfo; exp HEALTH EDUCATION/; 16017 results.</p> <p>83. PsycInfo; exp HEALTH PROMOTION/; 19240 results.</p> <p>84. PsycInfo; ((health adj3 (education OR advice OR promotion OR information))).ti,ab; 34545 results.</p> <p>86. PsycInfo; exp HEALTH/; 122633 results.</p> <p>87. PsycInfo; exp QUALITY OF LIFE/; 33169 results.</p> <p>89. PsycInfo; exp HEALTH BEHAVIOR/; 22270 results.</p> <p>93. PsycInfo; ((physical adj2 health)).ti,ab; 22164 results.</p> <p>94. PsycInfo; (quality ADJ2 of ADJ2 life).ti,ab; 50272 results.</p> <p>95. PsycInfo; ((socioeconomic OR (socio-economic) OR (socio ADJ2 economic)) ADJ2 status).ti,ab; 22492 results.</p> <p>99. PsycInfo; exp MENTAL DISORDERS/; 503384 results.</p> <p>100. PsycInfo; exp PSYCHIATRIC PATIENTS/; 27741 results.</p> <p>101. PsycInfo; exp LIFESTYLE CHANGES/; 1050 results.</p> <p>102. PsycInfo; exp HEALTH ATTITUDES/; 9079 results.</p> <p>103. PsycInfo; exp SOCIOECONOMIC STATUS/; 43069 results.</p> <p>104. PsycInfo; exp ECONOMIC SECURITY/; 593 results.</p> <p>105. PsycInfo; 77 OR 78 OR 79 OR 80 OR 99 OR 100; 524202 results.</p> <p>106. PsycInfo; 82 OR 83 OR 84; 55983 results.</p>	12	

	107. PsycInfo; 86 OR 87 OR 89 OR 93 OR 94 OR 95 OR 101 OR 102 OR 103 OR 104; 251821 results. 108. PsycInfo; 105 AND 106 AND 107; 1336 results. 109. PsycInfo; 108 [Limit to: Publication Year 2013-2016 and (Methodology Treatment Outcome/Clinical Trial)]; 12 results.		
CENTRAL	#1 MeSH descriptor: [Mentally Ill Persons] explode all trees 49 #2 MeSH descriptor: [Mental Disorders] explode all trees 49216 #3 MeSH descriptor: [Health Education] explode all trees 11299 #4 (health adj2 advice) .ab,ti 94 #5 MeSH descriptor: [Attitude to Health] explode all trees 29503 #6 MeSH descriptor: [Health Promotion] explode all trees 4969 #7 MeSH descriptor: [Quality of Life] explode all trees 17782 #8 MeSH descriptor: [Health Status] explode all trees 6169 #9 #1 or #2 49236 #10 #3 or #4 or #5 or #6 39278 #11 #7 or #8 22428 #12 #9 and #10 and #11 Publication Year from 2013 to 2016 14	14	

### Disclaimer

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