

# Knee and health-related quality of life of people with patellofemoral pain: a systematic review.

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# Patellofemoral Pain (PFP)

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*[Image: [www.saanichtonphysio.com](http://www.saanichtonphysio.com)]  
[Rathleff CR et al, 2013]*

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PFP diagnosed in more than 50% of knee pain consultations



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PFP may form a disease continuum with  
patellofemoral OA

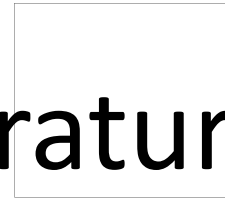
*[Image: [www.saanichtonphysio.com](http://www.saanichtonphysio.com)]*

*[Rathleff CR et al, 2013; Molgaard et al 2011; Collins et al., 2016]*

# What does the literature tell us about PFP?

❖ Symptoms

❖ Impairments



[Images: [www. Goodhousekeeping.com](http://www.Goodhousekeeping.com)  
[www.steadystrength.com](http://www.steadystrength.com)  
[www.athsvic.org.au](http://www.athsvic.org.au)  
[www.poisedandbalanced.com](http://www.poisedandbalanced.com)]

# Health-related quality of life (HRQOL)

- ❖ Refers to the influence of a person's health status on their perceived well-being

*[Filbay SF et al 2013]*

- ❖ Patient-reported outcomes commonly used to assess HRQOL
  - SF-36 and KOOS-QoL



*[Images: [www.completesportscare.com.au](http://www.completesportscare.com.au)]*  
Images

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No systematic review has investigated HRQOL in individuals with PFP to date

*[Images: [www.completesportscare.com.au](http://www.completesportscare.com.au)]  
Images*

# Aims

To investigate:

- ❖ HRQOL in individuals with PFP compared to population norms and healthy control group
- ❖ If interventions to treat PFP impact on HRQOL
- ❖ Other factors that are related to HRQOL in people with PFP



[Image: [www.visualsunlimited.com](http://www.visualsunlimited.com)]



# Methods

[Image: [www.123rf.com](http://www.123rf.com)]

5 databases

Cochrane Review strategy

1579 studies



99 full text



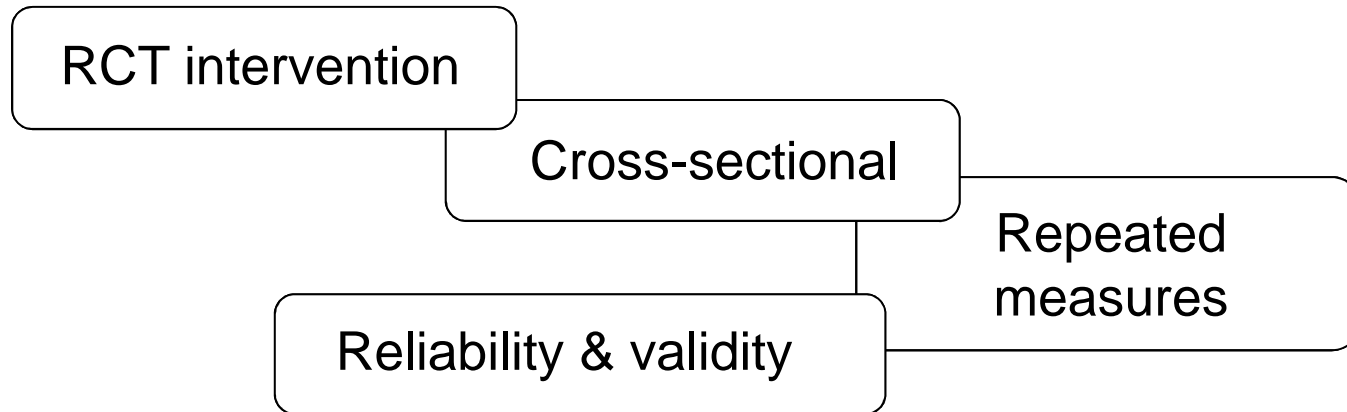
**22**

## Included studies

- Mean age <50 years
- PFP
- HRQOL outcome
- Peer reviewed

*[van der Heijden et al 2015; Filbay et al , 2013]*

# Methodological quality



Downs & Black Checklist for methodological quality of intervention studies (1998)

- ❖ Usually 27 items
- ❖ Modified to 15 items
- ❖ Percentage



[Image: [www.visualsunlimited.com](http://www.visualsunlimited.com)]

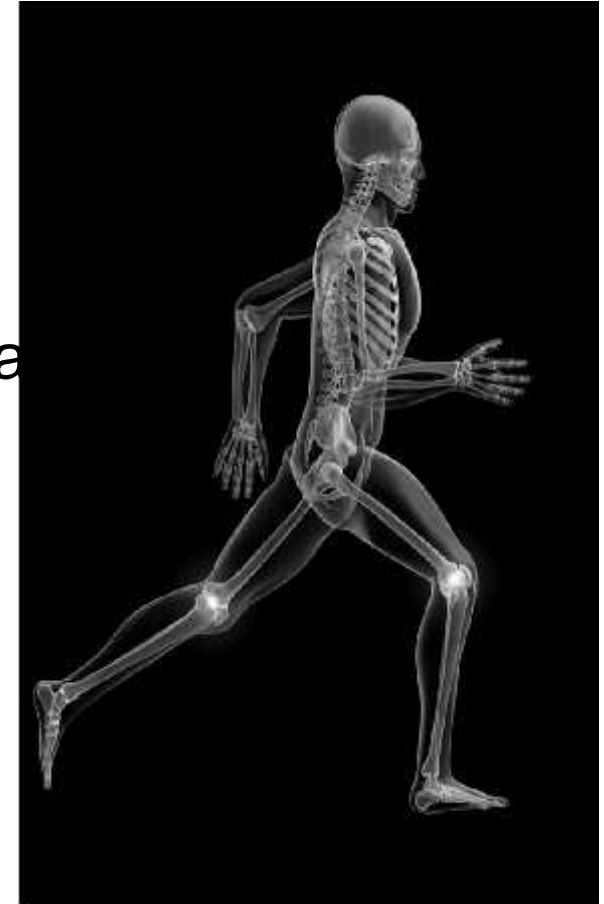
# Data Management

- Extracted data
  - ❖ Age
  - ❖ BMI
  - ❖ Sex
  - ❖ Mean and SD
- Outcomes normalised
- BMI calculated
- Means combined



# Statistical Analysis

- Random effects meta-analysis
  - ❖ Aim 1: Baseline mean
  - ❖ Aim 2: Mean closest to end of treatment
- Meta-regression analysis variables:
  - ❖ Age
  - ❖ BMI
  - ❖ Methodological quality score
  - ❖ Sample size
  - ❖ Other scales of KOOS



**Results**

# Participant Characteristics

1174 individuals with PFP

100 healthy controls

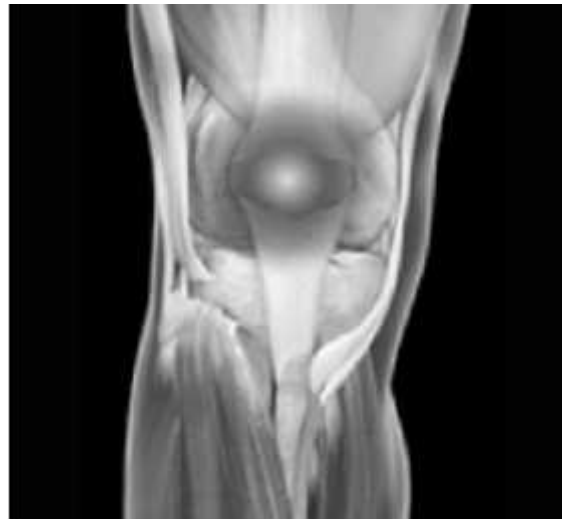
5/22 reported QOL as primary outcome

Mean

Age=27

BMI=23

% Female=64



Range

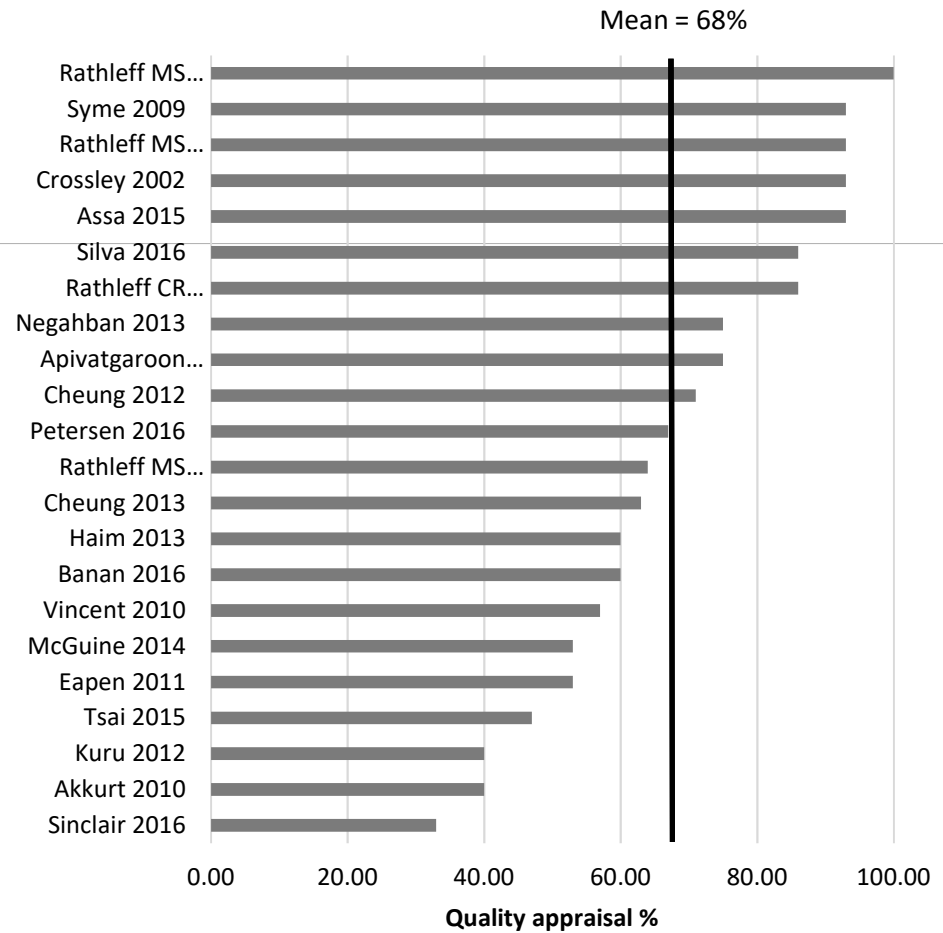
(14-47)

(20-25)

(34-100)

# Methodological quality

- Range of scores  
33-100%



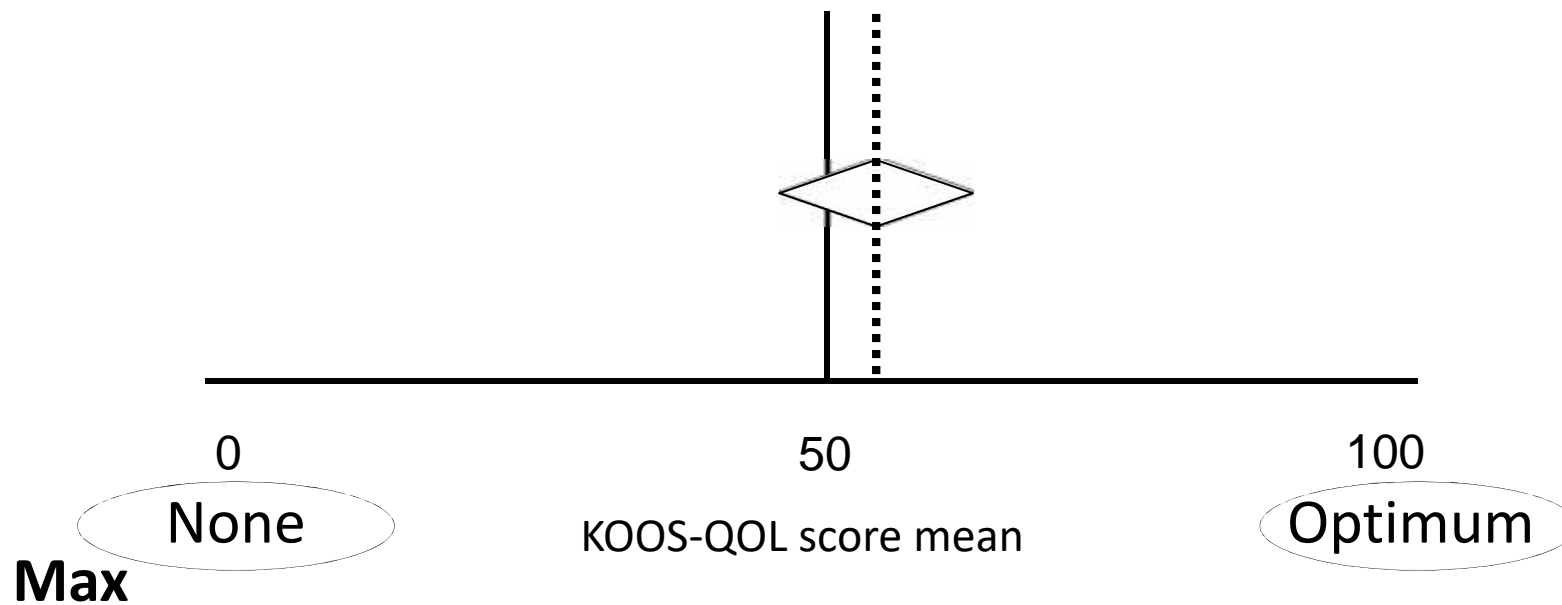


# HRQOL for individuals with PFP

KOOS-QOL

None

PFP-pooled mean = 55 (47,63)



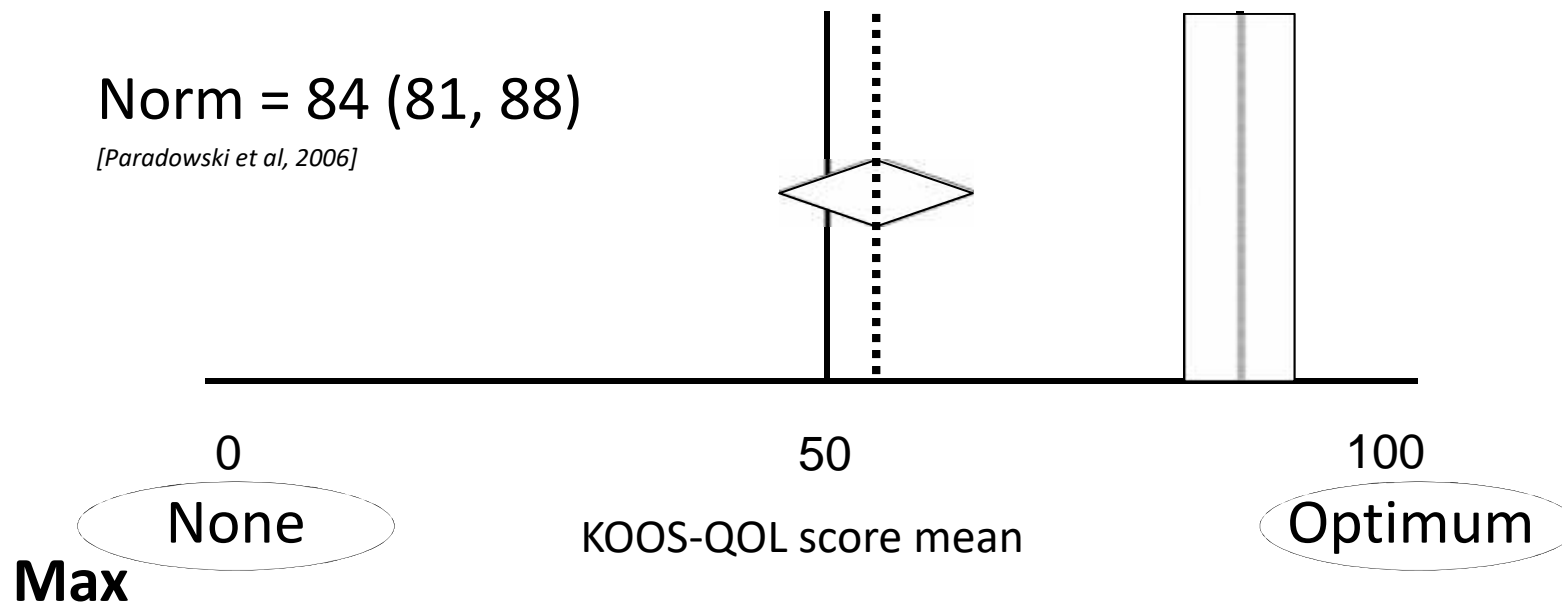
# HRQOL for individuals with PFP

KOOS-QOL  
None

PFP-pooled mean = 55 (47,63)

Norm = 84 (81, 88)

*[Paradowski et al, 2006]*



# HRQOL for individuals with PFP

KOOS-QOL  
None

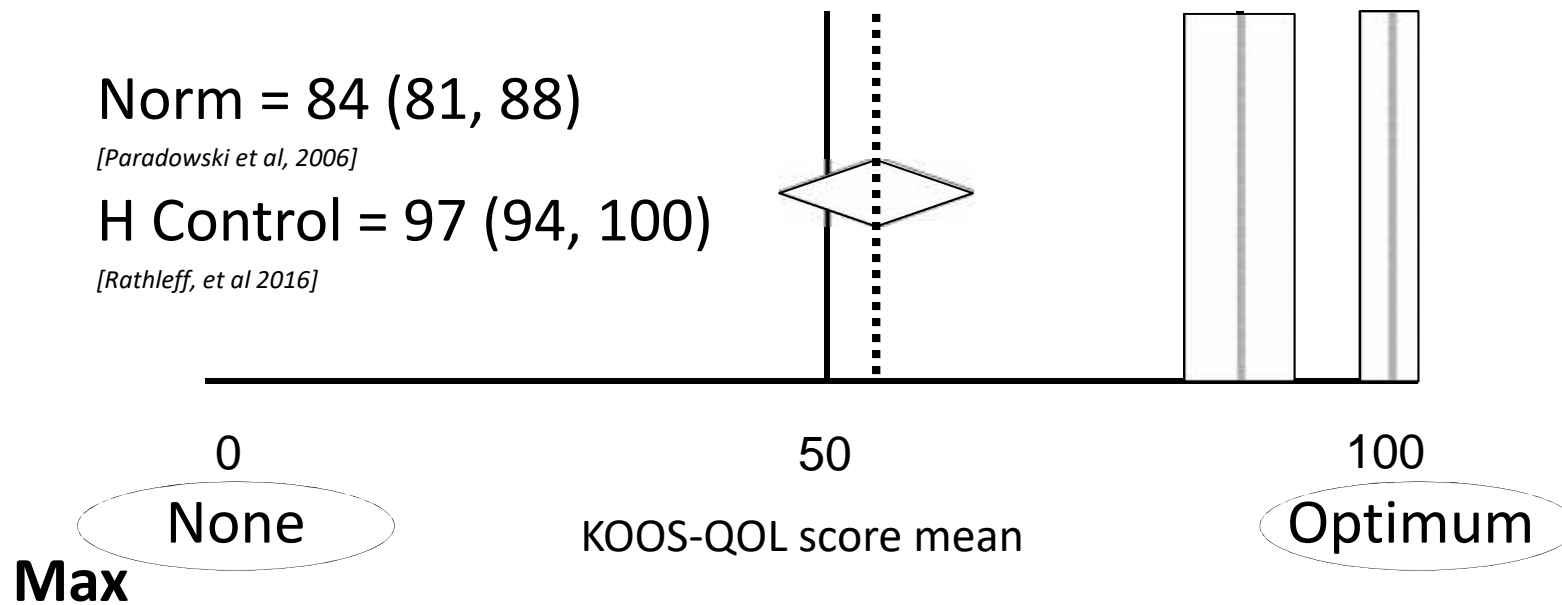
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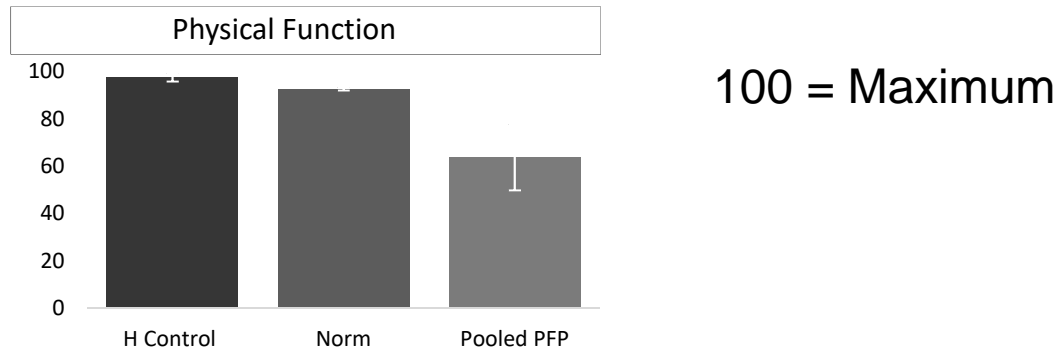
H Control = 97 (94, 100)

*[Rathleff, et al 2016]*



# HRQOL for individuals with PFP

SE-36-Physical domains  
None

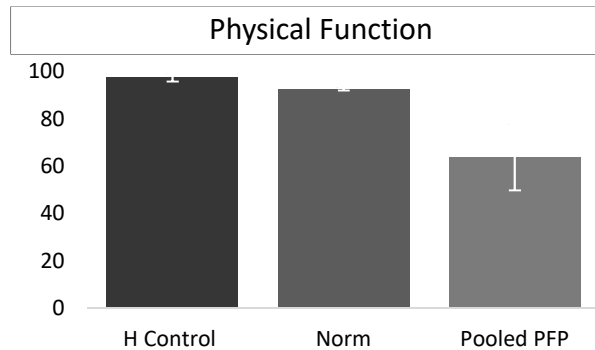


Max

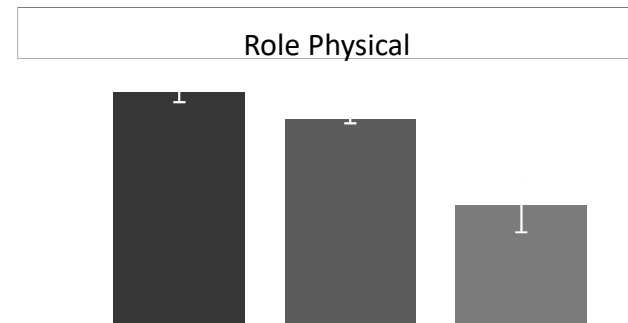
# HRQOL for individuals with PFP

## SF-36-Physical domains

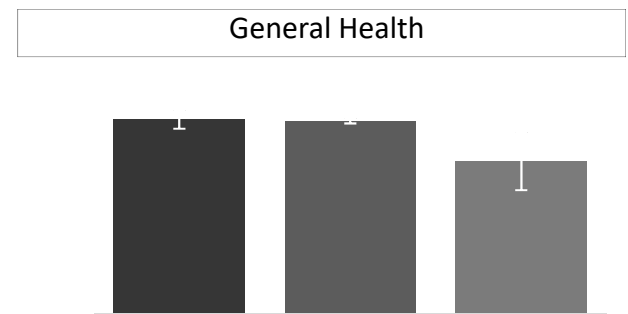
None



100 =  
Maximum



0 = Poor



# HRQOL for individuals with PFP

SF-36-Mental domains

None



100 = Maximum



ax

# HRQOL for individuals with PFP

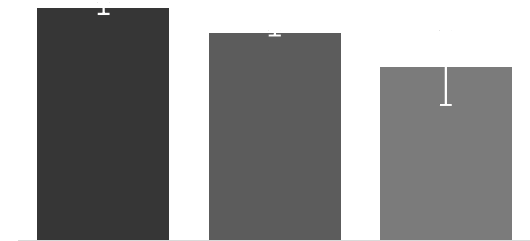
None SF-36-Mental domains

Vitality

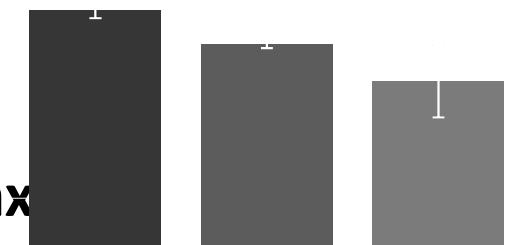


100 =  
Maximum

Social Function



Role Emotional



ax

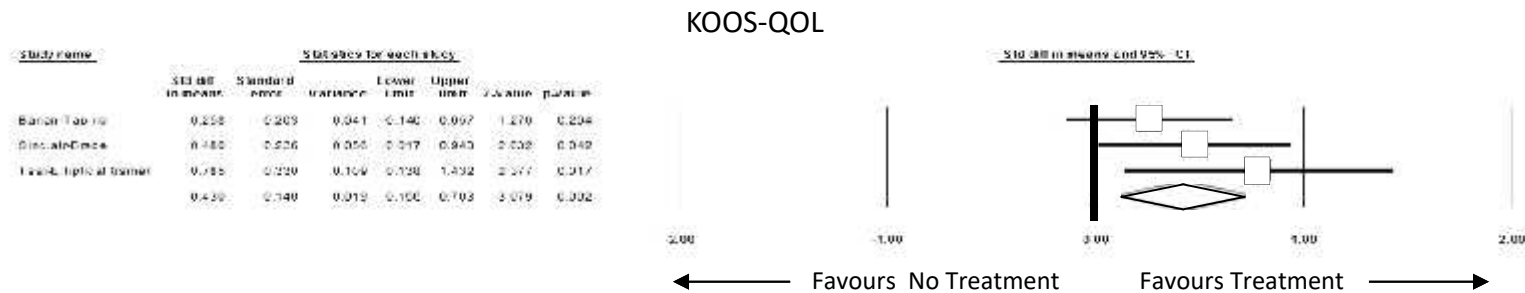
0 = Poor

Mental Health



# Effect of interventions on HRQL

## Repeated measures studies

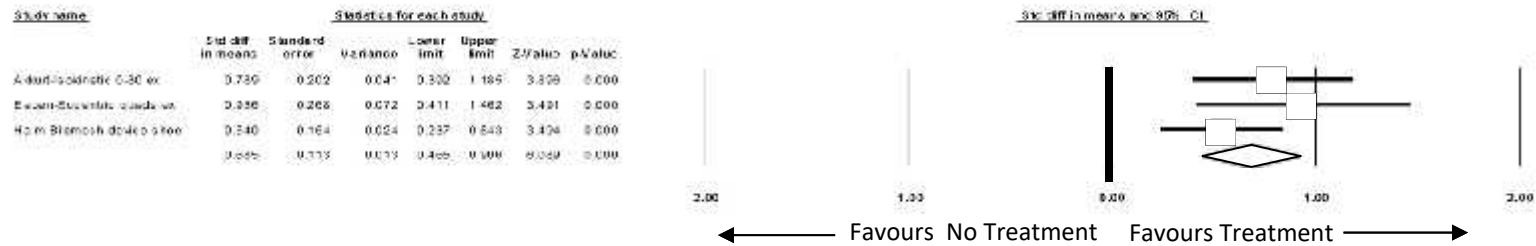




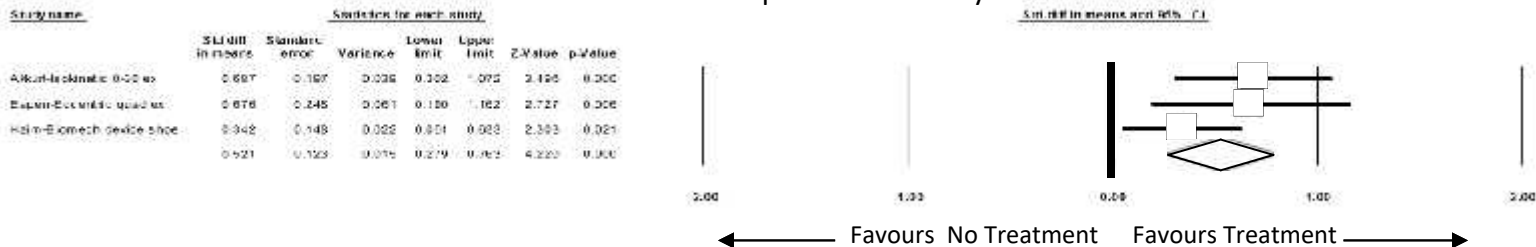
# Effect of interventions on HRQL

## Repeated measures studies

SF-36 Physical Component Summary

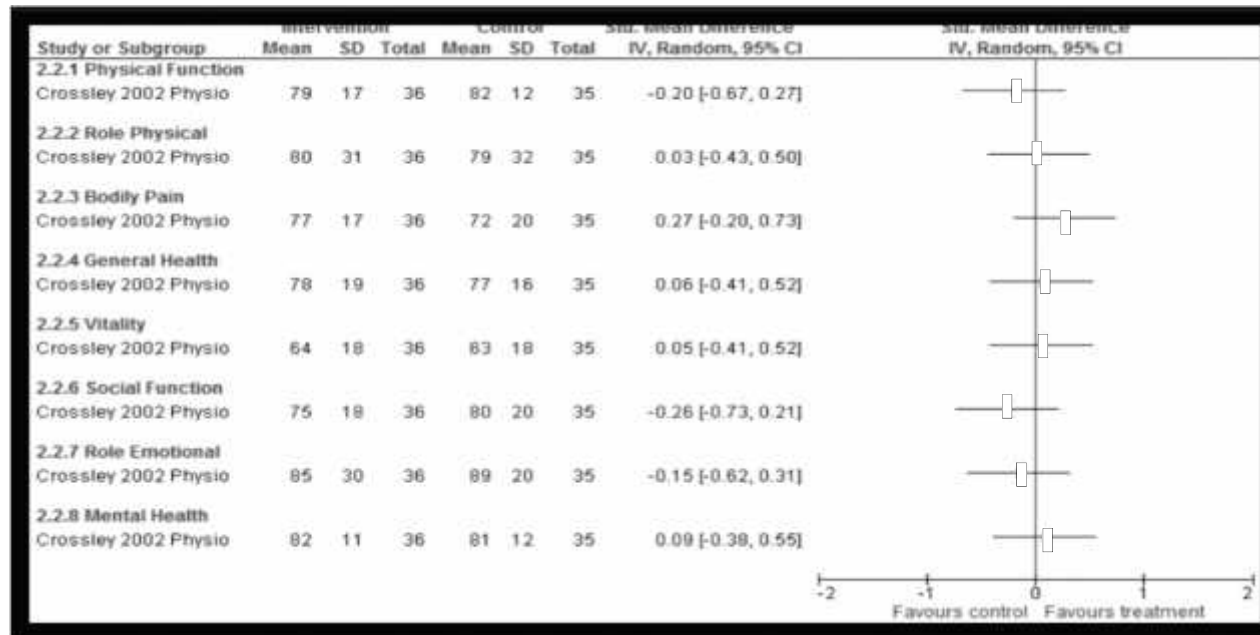


SF-36 Mental Component Summary



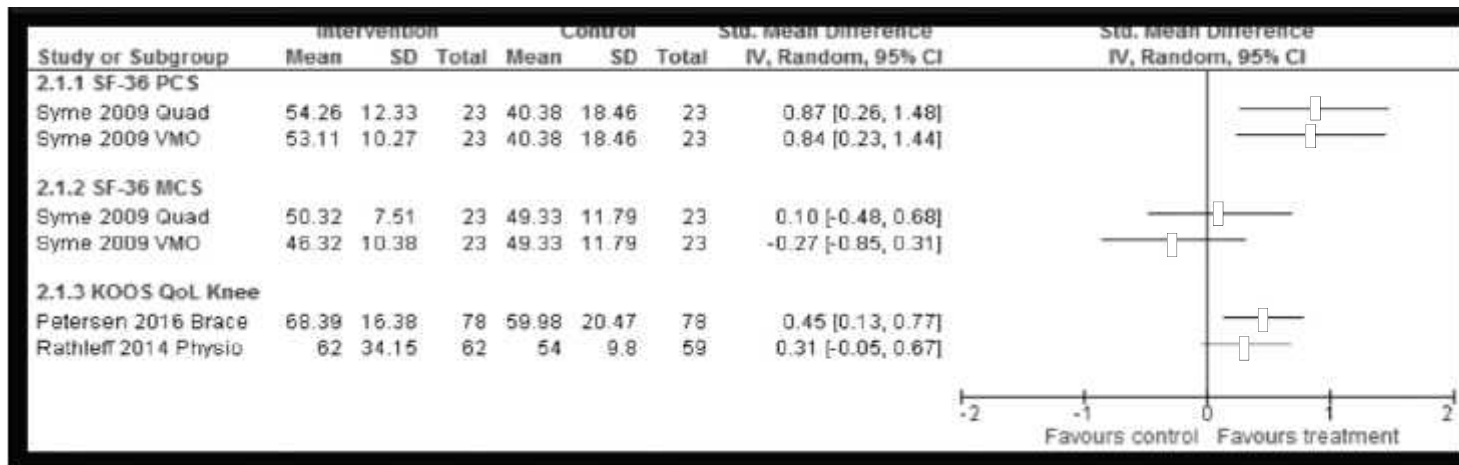
# Effect of interventions on HRQL

## Randomised controlled trials



# Effect of interventions on HRQL

## Randomised controlled trials



# Factors related to HRQOL

	KOOS QOL	SF-36 PF	SF-36 RP	SF-36 BP	SF-36 GH	SF-36 V	SF-36 SF	SF- 36RE	SF- 36MH
Age									
BMI									
KOOS-ADL									
KOOS-SPORT									

$R^2 > 0.7$	$R^2 0.4-0.7$

Max

# Summary

- HRQOL is reduced in people with PFP
- An intervention may improve HRQOL however there are too few studies to be certain
- Sport and ADL participation, age and BMI are associated with HRQOL



[Image: [www.visualsunlimited.com](http://www.visualsunlimited.com)]

# Summary

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- An intervention may improve HRQOL however there are too few studies to be certain
- Sport and ADL participation, age and BMI are associated with HRQOL

**People with PFP have reduced HRQOL and should be a consideration in management.**



[Image: [www.visualsunlimited.com](http://www.visualsunlimited.com)]