Improving physical education teachers’ action with overweight students

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Introduction

- Overweight and obesity are defined as an abnormal or excessive accumulation of bodily fat that can be detrimental to health (WHO, 2011)
- In 2015, 2.3 billions of adults will be overweight on the Earth
- According to the human costs that it will determine, it is urgent to act!!

Medline via Pub Med (September 2011)
- Obesity > 150,648 articles (since 1860)
- Childhood obesity > 6,656 articles (since 1935)
- Physical activity > 1,095 articles (since 1975)

Introduction

- Origins of overweight and obesity
  - Result of the energy balance (intake Vs expenditure) (Marsaudon, 2007)
  - Unique origin ➔ several factors acting simultaneously (Davison et Birch, 2001)

Introduction

- Potential factors
  - Nutrition (too rich in lipids, meal timing …)
  - Genetics
  - Ethnicity
  - Sedentariness
  - Psychological factors
  - Socio-economical level
  - Early adiposity rebound
  - Other (sleep, context of life …)

Introduction

- Potential fight against this epidemic
  - Prevention/information
  - Physical activity
  - Fight against sedentariness
  - Nutrition habits’ modifications
  - Psychosocial support
  - Drug and surgery (not for youth)

➔ Multisectorial action

Introduction

School is considered as a privileged partner

Students consider that School is not playing a role in their PA
(Cloes et al., 2009)

PE is in the heart of the process

Yes but PE could not solve all problems alone
(Tappe & Burgeson, 2004)

Physical educators should minimize the obesity problem
(Gard & Wright, 2001)

BUT…
But...

- Many questions are still open
  - Are there some links between the BMI influence students' attitudes and representations about PE?
  - Do they behave differently during PE classes?
  - Are PE teachers able to cope with overweight students?
  - How is it possible to help overweight youth to appreciate physical activity?

- The starting point of a research programme

Study #1 - Cloes et al. (2007)

- Purpose of the study
  - To verify if PE students' perception of competence differ when their BMI differ.
  - To determine if PE students' attitudes towards school and PE differ according to their BMI.
  - To verify if students differing according to their BMI assign distinct objectives to PE.

Study #1 - Cloes et al. (2007)

- Main results
  - Less overweight students than expected!

Study #1 - Cloes et al. (2007)

- Main results
  - Perception of competence decreases according to the BMI.
Study #1 – Cloes et al. (2007)

- Main results
  - Student’s involvement did not differ according to BMI

![Perception of involvement (positive opinions - %)](image)

- Perception of involvement (positive opinions - %)
  - Underweight: Girls 62.7%, Boys 69.6%
  - Normal: Girls 70.4%, Boys 78.6%
  - Overweight: Girls 61.6%, Boys 80.2%

Conclusions

YES, perception of competence and attitude towards PE differed according to BMI … BUT these differences were not clearly linked to the student’s perception of involvement.

Additional Study – Mailleux (2008)

- Purpose of the study
  - To analyze PE teachers’ representations about overweight students’ difficulties in the gym

Methods

- Study imagined by a Public Health student
- 10 PE teachers experimenting the Leger test with additional weight (BMI + 4; 10.4 to 14.1 kg)

- Results
  - Adapted test surprised teachers (their real performance was lower than expected)
  - They did not change their requirements to their students (no awareness about psychosocial aspects)

Study #2 – Cloes & Ziant (2010)

- Purpose of the study
  - To identify the opinions of specialists and PE teachers about the obesity crisis
  - To compare their representations about the actions to be proposed at school
  - To analyze their representations about the role of physical education

Methods

- 13 obesity experts
- Secondary school level
- 6 women – 6 men
- Semi-structured interviews
- 44 minutes (experts) - 38 (teachers)
- Audio recorded – verbatim transcription
- Content analysis
- Table of categories (Holmstrom et Milic, 1991)
- interpretation – 93.5%
- Triangulation (Goffman et Tange, 1980)
Study #2 – Cloes & Ziant (2010)

- Results: Knowledge and representations
  - PE teachers are unable to define it and to differentiate overweight and obesity
  - Do not know its origins
  - Contest the importance of obesity
  - Only one of the PE teachers was able to describe the concept of BMI (and made an error in the formula)

I don’t believe that it becomes an epidemic. It’s true that one has more often overweight students in comparison to some years ago but it is not an epidemic (T4; lines 24-26)

Study #2 – Cloes & Ziant (2010)

- Results: Actions with overweight and obese students
  - PE teachers are waiting information from the specialists
  - Are requesting examples of practical strategies
  - Specialists consider that PE teachers are more competent than them to develop specific strategies

In the educational programs that I attended to, nobody proposed information about how to manage obesity. On internet I didn’t find examples of exercises for obese students (T8; lines 159-162)

Study #3 (Gianquinto)

- Purpose of the study
  - To identify the difficulties encountered by PE teachers with overweight students
  - To experiment collaboration between obesity specialists and PE teachers

Study #3 (Gianquinto)

- Methods
  - 6 volunteer PE teachers + 6 obesity specialists
  - Nominal Group Technique (Brunelle et al., 1988)
  - Identification of practical problems
  - Exchanges between the subjects
  - Implementation on the field
    - 3 months
  - FB meeting
    - Description of the experiences
    - Validation by the specialists

Study #3 (Gianquinto)

- Results
Study #3 (Gianquinto)

- Results
  - Subjects were able to design several actions (NGT)
  - Implementation in the classes (FB meeting)
    - Endurance training (roller skating instead of running; heart monitors; tae-bo; ‘time running’ instead of ‘distance running’)
    - Orientation to sport structures out the school (volleyball club; fitness centre)
    - Contacts with a doctor (development of specific activities; information)
    - Contact with the school health service (???)
  - Few impact on students’ perceptions

Study #3 (Gianquinto)

- Conclusions
  - Possible collaboration between practitioners and specialists
  - Priorities
    - Setting of a confident relationship (availability and respect)
    - Proposing realistic and reachable objectives
    - Emphasizing youth’s competence (gestures, speech, look, activity) without stigmatization
    - Remaining within the limits of the function
  - Extremely positive feedback of all subjects
  - Specialists became aware about PE reality

Study #4 (Dewandre)

- Purpose of the study
  - To analyze the effectiveness of PA promotion during paediatric visits for overweight youth

Study #4 (Dewandre)

- Methods
  - 35 children (15 girls and 20 boys; 6 to 12 y/old)
  - Childhood Obesity Unit of the University Hospital of Liege
  - Introduction by a pediatrician or a dietician
  - First contact with the researcher = questionnaire + meeting about physical activity (written support)
  - Diary (8 weeks) + pedometer (voluntary basis)
  - Second contact with the researcher = questionnaire about the process (changes)
Study #4 (Dewandre)

- Results
  - Modification of youth's representation of physical activity

![Graph showing the change in representation of physical activity](image)

Study #4 (Dewandre)

- Results
  - Clear increase of physical activities practiced with the family

![Graph showing the increase in family physical activities](image)

Study #4 (Dewandre)

- Results
  - Clear increase of the PA weekly time

![Graph showing the increase in weekly physical activity](image)

Study #5 (Fortemps)

- Purpose of the study
  - To identify the needs of overweight youth for their access in fitness centres
  - To verify if the fitness centres are ready to propose adapted programmes for overweight youth

Study #5 (Fortemps)

- Methods
  - Questionnaire proposed to overweight adolescents attended to the same hospital service
    - Physical activity experience
    - Representation about fitness centres
  - Interviews of fitness centres' managers
    - Current programs
    - Readiness to develop adapted programs for overweight youths
    - Identification of the barriers and perspectives
    - Repertoire of good practices
Study #5 (Fortemps)

● Results
  ● In progress

Conclusion

● A quick overview of what we are doing
● It confirms that it is time to prevent obesity
● PE teachers need specific support
● Specialists are ready to collaborate
● Overweight students are eager to find adapted physical activities
● There is a determining role to play for PE (sport sciences) graduates

Thank you for your attention

Références


