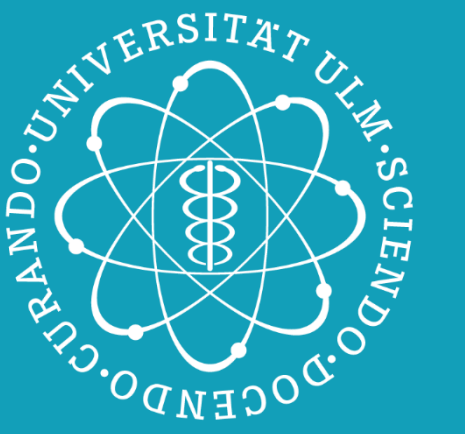


Placebo economics – The economic potential of utilizing the placebo effect



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Background

Placebo research investigated intensively the mechanisms by which placebo effects occur, but their utilization as a treatment option is still in its infancy – mainly because of ethical and legal concerns. However, recent research shows that placebo mechanisms can be used in ethical and legal ways such as in open-label conditions when patients know that they receive placebo pills and with conditioning of drug effects. Showing that placebo interventions are not only effective but also efficient could further improve their visibility and acceptability, but little is known about health economic evaluations (HEE) of placebo interventions.

Results

The first search resulted in 1853 articles which were screened for eligibility. Two studies were found only in which costs or cost-effectiveness analysis were reported (Tab.1). The second search yielded 164 articles from the JIPS database of which 11 studies met our search criteria: in six studies patients received placebo pills in open-label conditions, three studies investigated empathic patient-physician relationships, and two studies used psychological interventions to optimize treatment expectations (Tab.2). These studies report outcomes potentially eligible for HEE when costs of interventions were known.

Study	Condition	Placebo intervention	Control group	N	Age (M±SD)	Outcome for HEE	Results
Gupta 2017	Anxiety and compliance during anaesthesia	Anaesthetic mask with flavor of patients' choice	Anaesthetic mask without flavor	60	7.1 ± 2.3	Direct and indirect costs for flavored masks	Anxiety and compliance did not differ; higher overall costs for flavored masks compared to non-flavoured mask
Pattamatta 2018	Complications after colorectal surgery	Gum chewing	Placebo dermal patch	120	66.5 ± 10.0	Total costs, costs for ward stay, ICER	Positive ICER in favour of gum chewing (lesser costs and positive effects)

Tab. 1: Studies with placebo interventions reporting an HEE (Review 1) (ICER = Incremental Cost-Effectiveness Ratio).

Study	Condition	Placebo intervention	Control group	N	Age	Outcome relevant for HEE
Kaptchuk 2008	Irritable bowel syndrome (IBS)	1) Placebo acupuncture alone 2) plus augmented relationship	Waiting list	262	39 ± 14	IBS QoL
Rakel 2009	Common cold	Enhanced physician visit	1) Standard physician visit 2) no physician visit	350	36 ± 15	QoL (SF-8), EuroQoL
Kaptchuk 2010	Irritable bowel syndrome (IBS)	Open-label placebo pills	No-treatment control	80	47 ± 18	IBS QoL
Clerisme- Beaty 2011	Suboptimally controlled asthma	Education to enhance expectations	Standard educational program	99	35 ± 15	Asthma QoL
Dosset 2015	Gastroesophageal reflux disease (GERD)	Expanded empathic visit	Standard empathic visit	24	58 ± 11	GERD QoL
Carvalho 2016	Chronic low back pain	Open-label placebo pills	Treatment-as-usual (waitlist)	83	44 ± 13	Roland-Morris Disability Questionnaire
Schaefer 2016	Allergic rhinitis	Open-label placebo pills	No treatment	25	26 ± 10	QoL (SF-12)
Rief 2017	Coronary artery bypass graft (CABG) surgery	Psychological intervention for expectation optimization	1) Psych. Interv. +emotional support 2) Standard medical care	115	66 ± 8	Pain Disability Index, QoL (SF-36)
Hoemeyer 2018	Irritable bowel syndrome (IBS)	1) Placebo acupuncture alone 2) plus augmented relationship	Waiting list	74	57 ± 12	Multidimensional Fatigue Symptom Inventory (=QoL)
Schaefer 2018	Common cold	Enhanced physician visit	1) Standard physician visit 2) no physician visit	46	25 ± 7	QoL (SF-36)
Zhou 2018	Irritable bowel syndrome (IBS)	Open-label placebo pills	No-treatment control	40	47 ± 12	QoL (SF-12)

Tab.2: Studies with placebo interventions reporting outcomes eligible for HEE (Review 2) (QoL = Quality of Life).

Methods

Two systematic reviews of the literature were performed to 1) review studies that have already performed HEE of intentional placebo interventions, and 2) to review studies that intentionally applied placebo interventions and reported outcomes eligible for HEE.

For the first review, we searched Medline using "placebo" and 53 MeSH Terms associated with HEE such as "costs", "cost-benefit analyses", and "economics". Studies were eligible if they employed patients, applied placebo interventions, included an appropriate control group, and reported results of cost analyses. For the second review, we searched the Journal of Interdisciplinary Placebo Studies (JIPS) database and Medline using search terms for outcomes eligible for cost-utility analyses, such as "quality of life" or "quality-adjusted life years" ("QALY"). All literature searches were performed by two reviewers (JH, KW).

Discussion

Cost-benefit analyses and other forms of health economic evaluations could enhance the visibility and acceptance of placebo interventions. However, our literature review show that HEE of placebo interventions have rarely been performed (Review 1), but there are studies using placebo interventions and reporting outcomes eligible for HEE (Review 2). For the latter, cost-benefit analyses could be performed when costs of interventions are known. Future studies should assess outcomes eligible for HEE such as quality of life and costs of interventions.

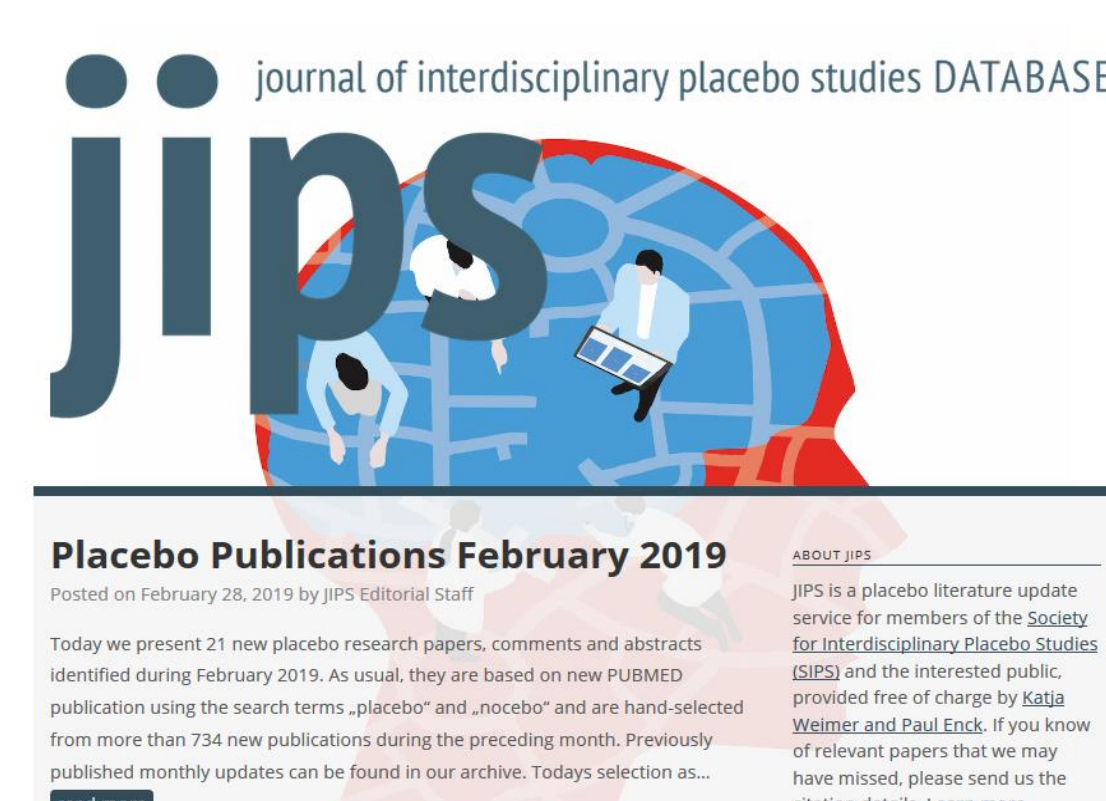


Fig.1: JIPS Database and Newsletter registration: <https://jips.online>



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