**Supplementary materials. Full table of results of factors associated with parental report of symptoms. Unless stated, predictors are reported by the same person reporting symptoms and relate to child factors.**

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| --- | --- | --- | --- |
|  | Symptoms perceived | Measure of symptoms | Predictors of symptom report |
| Akbarzadeh et al. (2018)(22) | Pain severity of headache | Numeric pain rating scale | Mothers’ ratings of child pain: **mother catastrophising about pain, anxiety,** depressionFathers’ ratings of child pain: father catastrophising about pain, **anxiety,** depression |
| Aromaa et al. (1998)(23) | Disturbing headache | “Has your child had headache disturbing his/her daily activities during the last 6 months? Has your child had headache disturbing his/her daily activities at some time in his/her life (before the last 6 months)?” Answered yes to both questions to be case | **Maternal perception of child poor health (9 months), high sociability (5 years), behavioural problems (5 years)** |
| Baldin et al. (2012)(24) | Recurrent symptoms | “Has the child had any of the following symptoms?”Has the child “ever complained of recurrent abdominal pain?”  | Migraine: **fearful or anxious**Recurrent abdominal pain: **being fearful or anxious**Recurrent body pain: **being fearful or anxious**Recurrent stomach bugs with vomiting: **being fearful or anxious**Recurrent vomiting without cause: **being fearful or anxious**Recurrent nosebleeds: **being fearful or anxious**Recurrent dizzy spells: **being fearful or anxious**Recurrent concussions from minor head injuries: being fearful or anxiousRecurrent fainting spells: being fearful or anxiousRecurrent visual disturbances: **being fearful or anxious** Recurrent spells rapid/irregular heartbeat: **being fearful or anxious**Recurrent chest pains: **being fearful or anxious**Recurrent episodes of unexplained fever (>38): **being fearful or anxious**Recurrent episodes of diarrhea: **being fearful or anxious**Recurrent wry neck (torticollis): **being fearful or anxious**Moving sickness: **being fearful or anxious**Tender hair: **being fearful or anxious**Other recurrent symptoms: **being fearful or anxious** |
| Borge & Nordhagen (1995)(25) | Headache, stomach ache | “Occurrence versus non-occurrence,” frequency of complaint | Headache and stomach ache co-occurrence: emotional problems (10 years), **maternal emotional support**, **behaviour problems (4 years)**, **emotional problems (4 years)** |
| Cerutti et al. (2017)(26) | Somatic symptoms | Short version of the Children’s Somatization Inventory – Parent version | **Difficulty in physical and psychological functioning. Alexithymia** (**difficulty identifying feelings** (*child-reported*),difficulty describing feelings *(child-reported)*, externally-oriented thinking *(child-reported)*) |
| Correia & Linhares (2013)(27) | Headache | “Duration and characteristics of [headache] episodes over the last six months” | Adverse life events, extraversion (activity level, high-intensity pleasure, impulsivity, shyness), negative affect (anger/frustration, **discomfort,** fear, sadness, soothability), effortful control (attention focusing, inhibitory control, low-intensity pleasure, perceptual sensitivity), approach/positive anticipation, smiling/laughter, maternal stress |
| Domenech-Llaberia et al. (2004)(5) | Presence and frequency of physical symptoms (stomach aches, headaches, leg pains, tiredness, dizziness) | Qüestionari Pels Pares (Questionnaire for Parents). “Questionnaire… inquired about the presence and frequency once, two or three times,over three times) of four somatic complaints in the 2 weeks prior toassessment” | Frequently complaining children (4 or more complaints vs no complaints): **ADHD inattentive, generalised anxiety disorder, adjustment disorder, number of stressful life events, maternal mental distress** |
| Fabbri et al. (2012)(28) | Headache | ≥2 episodes of headache in the past two weeks, without any associated organic symptoms | Ribeirão Preto: **strengths and difficulties** São Luís: **strengths and difficulties** |
| Fearon & Hotopf (2001)(29) | Headache | “Does your child suffer fromfrequent headache or migraine?” | Headache: **moderate or severe depression (age 7),** **mental illness in family member (age 7)**Recurrent headache: **moderate or severe depression (age 7),** **mental illness in family member (age 7)** |
| Fryer et al. (2017)(30) | Frequent complaints of pain | Parents asked whether child “oftencomplains of headaches, stomach-aches or sickness” | **Maternal distressed mental health (at child 3 years),** **child strengths and difficulties at 5 years** |
| Gassmann et al. (2012)(31) | Recurrent headache | Headache frequency | Boys: reaction to failure, dysfunctional stress coping, anger out, anxiousness/depressiveness, aggressive behaviourGirls: age, reaction to failure, **dysfunctional stress coping**, anger out, anxiousness/depressiveness, hyperactivity |
| Giacobo et al. (2012)(32) | Presence and frequency of physical symptoms (stomach ache,headache, fatigue, dizziness, and other complaints) | Qüestionari Pels Pares (Questionnaire for Parents) | Frequent somatisation: **any** **anxiety symptoms, separation anxiety, social phobia,** psychiatric symptoms (ADHD, generalised anxiety, specific phobia, depression, dysthymia, conduct disorder, oppositional defiant disorder), aggressiveness towards peers, severe mood dysregulationStomach ache: **any** **anxiety symptoms, separation anxiety, social phobia**Leg pain: **any** **anxiety symptoms, separation anxiety,** social phobiaHead ache: any anxiety symptoms, **separation anxiety,** social phobiaFatigue: any anxiety symptoms, separation anxiety, **social phobia** |
| Gibb (2014)(33) | Somatic symptoms | Children’ Somatization Inventory – Parent version | **Anxiety, frequency of stressors** (*child-reported*),communication scale (*child-reported*: total communication, communication with primary caregiver, open communication, **inhibited confiding\***, confiding of distress, **caregiver responsiveness\***, sharing of news, confiding in friends)\* When control for child-reported anxiety, but not parent-reported anxiety, association becomes non-significant  |
| Giray et al (2018)(34) | Pain | Non-communicating children’s pain checklist-revised | **Quality of life,** parental depression |
| Grunau et al (1994)(35) | Pain sensitivity | “Child is very sensitive to pain of bumps or cuts or other common hurts.” Likert scale of 1 to 5 from “not characteristic” to “very characteristic.”  | Differences between groups: **Temperament** (not in children <801g),parenting style (organisation, variety, responsivity, acceptance, involvement) |
| Grunau et al (1994)(36) | Somatisation (at 4.5 year visit) | 30 items which include questions about occurrence of stomach aches, headaches, leg pains among others | Somatisation in extremely low birth weight group (correlations): mother interaction (gratification, **sensitivity,** affect), child interaction (gratification, responsiveness, affect), **parenting style** (acceptance, **involvement**, responsivity), child’s temperament (shyness, emotionality, sociability, activity), avoidance of touch, **family conflict**Somatisation in full-term group (correlations): mother interaction (gratification, sensitivity, affect), child interaction (gratification, **responsiveness**, affect), parenting style (acceptance, involvement, responsivity), child’s temperament (shyness, **emotionality**, sociability, activity), avoidance of touch, **family conflict**Somatisation (stepwise multiple regression): **family conflict** |
| Henriksen & Thuen (2015)(37) | Common cold, throat infection, pneumonia/respiratory syncytial virus/bronchitis, diarrhoea/gastric flu, ear infection, pseudocroup, urinary tract infection, conjunctivitis | Mothers marked a checklist which asked “whether their children had or had not experienced a disease” | <6 months old, common cold: **maternal stressful life events,** **maternal relationship dissatisfaction**<6 months old, throat infection: **maternal stressful life events,** **maternal relationship dissatisfaction**<6 months old, pneumonia/respiratory syncytial virus/bronchitis: maternal stressful life events, **maternal relationship dissatisfaction**<6 months old, diarrhoea/gastric flu: **maternal stressful life events, maternal relationship dissatisfaction**<6 months old, ear infection: **maternal stressful life events,** **maternal relationship dissatisfaction**<6 months old, pseudocroup: **maternal stressful life events,** **maternal relationship dissatisfaction**<6 months old, urinary tract infection: **maternal stressful life events,** **maternal relationship dissatisfaction**<6 months old, conjunctivitis: **maternal stressful life events,** **maternal relationship dissatisfaction**6-11 months old, common cold: **maternal stressful life events, maternal relationship dissatisfaction**6-11 months old, throat infection: **maternal stressful life events, maternal relationship dissatisfaction**6-11 months old, pneumonia/respiratory syncytial virus/bronchitis: **maternal stressful life events, maternal relationship dissatisfaction**6-11 months old, diarrhoea/gastric flu: **maternal stressful life events, maternal relationship dissatisfaction**6-11 months old, ear infection: **maternal stressful life events, maternal relationship dissatisfaction**6-11 months old, pseudocroup: **maternal stressful life events, maternal relationship dissatisfaction**6-11 months old, urinary tract infection: maternal stressful life events, maternal relationship dissatisfaction6-11 months old, conjunctivitis: **maternal stressful life events, maternal relationship dissatisfaction** |
| Kilgallen & Gibney (1996)(38) | Food allergy | “presence or absence of perceived food allergy” | **Maternal perception that general prevalence of food allergy is common** |
| Köhler et al. (2017)(39) | Recurrent abdominal pain | “How often has the child had abdominal pain during the past 6 months?” Outcome dichotomised: ‘Yes’ if answer ‘practically every day’ or ‘more than once a week.’ ‘No’ if more rarely than once a week | Child factors: **violence in the family**, serious life eventMaternal factors: **worries about economy**, low emotional support, **everyday stress**Paternal factors: **worries about economy, low emotional support,** everyday stress |
| Link & Fortier (2016)(40) | Pain severity. Frequency of chronic pain | Pain severity: 0-10 numeric rating scale. Frequency of chronic pain in past 3 months: six-point Likert scale, “every day” to “less than once per month” | Pain severity:Parent trait anxietyPain frequency: **Parent trait anxiety** |
| Litcher et al. (2001)(41) | Somatic symptoms | Children’s Somatization Inventory – Parent version, amended | **Child behaviour somatisation, child behaviour depression/anxiety,** **depression** *(child-reported)***, anxiety** *(child-reported)***,** perceived competence *(child-reported)*, self-worth *(child-reported)* |
| Morris (2006)(42) | Weekly headache versus good health | Experienced headache in last six months. Frequency “at least once a week.” Specify absolute number of headaches in certain time span | **Anger-out mode of expression**, anxiety/depression, sleep disturbance, index of life events |
| Pitrou et al. (2010)(43) | Frequent headaches | “Since his/her birth, did your child have frequent headaches, including migraines?” | Parenting style (**punitive behaviours, inverse association;** caring behaviours, overprotective behaviours), **emotional problems,** conduct disorder, peer relationship difficulties, hyperactivity-inattention, **abnormal total difficulties on Strengths and Difficulties questionnaire, general anxiety disorder** *(child-reported)***,** separation anxiety disorder *(child-reported)*, specific phobia *(child-reported)*, major depressive disorder *(child-reported)*, ADHD *(child-reported)*, oppositional defiant disorder *(child-reported)*, conduct disorder *(child-reported)* |
| Poder et al (2010)(44) | Symptom presence, frequency, intensity and distress | Modified version of the Memorial Symptom Assessment Scale 10-18 (Physical symptom scale) | **Parental PTSD** |
| Ramchandani et al. (2005)(45); Ramchandani et al. (2006)(46); Ramchandani et al. (2007)(47) | Abdominal pain | “Have there been times when he/she seems to have had a pain in his stomach in the past 12 months?” Yes/No. “How many separate times has this happened in the past 12 months?” If ≥5 a year, in recurrent abdominal pain group | 30 months: **maternal anxiety, maternal depression,** partner anxiety, partner depression42 months: **behavioural and emotional problems (hyperactivity, emotional, conduct, prosocial, total difficulties)**81 months: **strengths and difficulties (hyperactivity**, **emotional, conduct, peer problems,** prosocial, **total difficulties, adjusted emotional), activity (temperament), rhythmicity of eating and sleeping (temperament), maternal anxiety** *(mother-reported)***, paternal anxiety** *(father-reported)*7 years: hyperactivity score, emotional score, peer problems, **maternal anxiety**, paternal anxiety |
| Rocha et al. (2003)(48) | Somatic symptoms | Children’s Somatization Inventory – Parent version | Behavioural style (**adjustment**, sensitivity, activity/persistence), illness behaviour encouragement, **child’s facial responses to pain reactivity** *(trained coder rating)*, maternal response to child’s inoculation *(trained coder rating)* |
| Smith et al. (2017)(49) | Adverse effects from influenza vaccine | Child experienced symptoms (23 items) “because of child flu vaccine” | **Vaccine is unsafe, vaccine can cause short-term adverse effects, vaccine can cause long-term health problems, vaccine would interact with child’s other medications, yearly vaccination would overload immune system, seeing another child with adverse effects,** health professional recommendation for vaccination, **health professional recommendation against vaccination, friend/relative recommendation against vaccination,** child susceptibility to influenza, **flu would be serious for child, flu would be serious for self, flu would be serious for someone living in child’s household,** influenza vaccine is effective, **don’t like vaccinations in general, don’t know enough about influenza vaccine, yearly vaccination too much of an ongoing time commitment, child influenza vaccine does not suit religious/cultural beliefs, vaccine campaign is about making money for the manufacturers** |
| Smith et al. (2018)(50) | Adverse effects from influenza vaccine | Child experienced symptoms (23 items) “because of child flu vaccine” | Adverse effect report three days after vaccination: **Parent expectation,** parent perceived suggestion of symptom (friends/family, official websites, media, NHS vaccination leaflet, healthcare worker in appointment), parent perceived suggestion of symptom by trust (friends/family, official websites, **media, NHS vaccination leaflet, healthcare worker in appointment**), parent knowing another child with adverse effects, parent perceived severity of adverse effects observed, adverse effects from previous influenza vaccine, adverse effects from previous routine vaccine, parent worry about adverse effects from previous routine vaccine, parent neuroticism, parent positive affect, parent negative affect, parent anxiety, parent optimism, parent pessimism, perceived sensitivity to medicines, parent modern health worries, parent beliefs about medicines (harm, overuse), vaccine is unsafe, vaccine can cause short-term adverse effects, child influenza vaccine does not suit religious/cultural beliefs, don’t like vaccinations in general, don’t know enough about influenza vaccine, vaccine campaign is about making money for the manufacturers, yearly vaccination would overload immune system, yearly vaccination too much of an ongoing time commitment,influenza vaccine is effective, child susceptibility to influenza, flu would be serious for child, flu would be serious for self, flu would be serious for someone living in child’s household, impact on daily life if child caught influenzaAdverse effect report one month after vaccination: **Parent expectation**, parent perceived suggestion of symptom (friends/family, official websites, media, **NHS vaccination leaflet**, healthcare worker in appointment), parent perceived suggestion of symptom by trust (friends/family, official websites, media, NHS vaccination leaflet, healthcare worker in appointment), parent knowing another child with adverse effects, parent perceived severity of adverse effects observed, adverse effects from previous influenza vaccine, parent perceived severity of adverse effects from previous influenza vaccine, adverse effects from previous routine vaccine, parent worry about adverse effects from previous routine vaccine, parent neuroticism, parent positive affect, parent negative affect, **parent anxiety,** parent optimism, **parent pessimism, perceived sensitivity to medicines,** parent modern health worries, parent beliefs about medicines (harm, overuse), **vaccine is unsafe,** vaccine can cause short-term adverse effects, child influenza vaccine does not suit religious/cultural beliefs, don’t like vaccinations in general, **don’t know enough about influenza vaccine**, vaccine campaign is about making money for the manufacturers, yearly vaccination would overload immune system, yearly vaccination too much of an ongoing time commitment,influenza vaccine is effective, child susceptibility to influenza, flu would be serious for child, flu would be serious for self, flu would be serious for someone living in child’s household, impact on daily life if child caught influenza |
| Soltis & Shelestak (2011)(51) | Pain | Visual analogue scale – 10cm long with 100 points, “perception of pain” | Parental anticipatory anxiety, **parental** **high experienced anxiety** |
| Srivastava et al (2001)(52) | Pain | Visual analogue scale – 10cm long with 100 points, “perception of pain” | Parental anticipatory anxiety, **parental** **high experienced anxiety** |
| Stevenson et al. (1988)(53) | Recurring stomach aches | Child experiencing a stomach ache during the preceding 4 weeks and during any time prior to this | **Behaviour (temper tantrums,** dependency, **fears**), maternal perception of inadequate social support, maternal depression, maternal irritability with child |
| Strine et al. (2006)(54) | Frequent or severe headaches | “During the past 12 months, has [child’s name] had frequent or severe headaches, including migraines?” | **Emotional symptoms (worried, unhappy, nervous, scared, total emotional domain), conduct problem (loses temper, less well behaved, fights/bullies, lies/cheats,** steals, **total conduct problem domain), hyperactivity-inattention (restless, fidgety, poor concentration, less reflective, less attentive, total hyperactivity-inattention domain), peer problems (plays alone,** has good friend,popular, **bullied, relates better to adults than peers, total peer problems domain), total high difficulties prevalence** |
| Wolff et al. (2010)(55) | Presence and frequency of somatic complaints | Child Behaviour Checklist | Temperament (activity level, distress to limitations, **fear**, duration of orienting, **falling reactivity**, sadness), maternal prenatal symptoms (depression, **anxiety**),maternal symptoms at 2 months (depression, **anxiety**), **parenting stress** |
| Zuckerman et al. (1987)(56) | Recurring headaches and stomach aches | At 3-year interview, if parent stated that child had experienced a headache or stomach ache in the last 4 weeks and at any time before this | Headache: **Behaviour problems (dependent, fears),** maternal concerns about child’s appetite, **maternal depression,** maternalperceived inadequate supportStomach ache: **Behaviour problems (dependent**, fears**)**, maternal concerns about child appetite, **maternal depression**, maternal perceived inadequate support |

Abbreviations: ADHD – attention-deficit hyperactivity disorder, PTSD – post-traumatic stress disorder