



## Results of the implementation of a new screening protocol for child maltreatment at the Emergency Department of the Academic Medical Center in Amsterdam



Arianne H. Teeuw MD (Lecturer, Paediatrician)<sup>a,b,\*</sup>,  
 Tessa Sieswerda-Hoogendoorn MD, PhD (Resident in Paediatrics)<sup>a</sup>,  
 Esmée J. Sangers (Medical Student)<sup>c</sup>, Hugo S.A. Heymans PhD (Professor)<sup>b</sup>,  
 Rick R. van Rijn PhD (Professor)<sup>d</sup>

<sup>a</sup> Department of Social Paediatrics, Emma Children's Hospital – Academic Medical Centre, Amsterdam, The Netherlands

<sup>b</sup> Department of Paediatrics, Emma Children's Hospital – Academic Medical Centre, Amsterdam, The Netherlands

<sup>c</sup> Medical Student, Faculty of Medicine, University of Amsterdam, The Netherlands

<sup>d</sup> Department of Radiology, Emma Children's Hospital – Academic Medical Centre, Amsterdam, The Netherlands

### ARTICLE INFO

#### Article history:

Received 18 December 2014

Received in revised form 22 April 2015

Accepted 17 May 2015

#### Keywords:

Child maltreatment  
 Checklist  
 Emergency Department  
 Screening

### ABSTRACT

**Objective:** This study examines the results of the implementation of a new screening protocol for child maltreatment (CM) at the Emergency Department (ED) of the Academic Medical Center in Amsterdam, The Netherlands.

This protocol consists of adding a so called 'top-toe' inspection (TTI), an inspection of the fully undressed child, to the screening checklist for child maltreatment, the SPUTOVAMO.

**Design:** We collected data from all patients 0–18 years old directly after introduction (February 2010) and 9 months later. Outcome measures were: completion of the screening and reasons for non-adherence. Data were collected on age, gender, reason for visiting the ED (defined by International Classification of Disease, ICD), presence of a chronic illness, type of professional performing the TTI and admission during week or weekend days.

**Results:** In February 560 and in November 529 paediatric patients were admitted. In February the complete screening protocol was performed in 42% of all children, in November in 17%.

A correlation between completion of the SPUTOVAMO and having a TTI performed was found.

Older age and presence of a chronic illness influenced the chance of having both SPUTOVAMO and TTI performed negatively. The completion rate of SPUTOVAMO was influenced by ICD code. Completion of TTI was influenced by type of investigator. The best performing professional was the ED physician followed by the paediatrician followed by the ED nurse. The reasons for not performing a TTI were not documented. Refusal of the TTI by a patient or parent was reported three times.

**Conclusion:** Implementation of this new screening protocol for CM was only mildly successful and declined in time. A negative correlation between older child age and having a chronic illness and completion of the screening was found. A practical recommendation resulting from this study could be that, if CM screening protocols prove to be effective in detecting CM, regular training sessions have to be held. Filling out the checklist is something that could be performed by ED nurses. Performing a TTI is perhaps easier for the ED physicians to make part of their daily routine.

© 2015 Elsevier Ltd. All rights reserved.

### 1. Introduction

Child maltreatment (CM) is a serious public health problem with severe acute and long term consequences (Anda et al., 2006; Gilbert

et al., 2009b; Irish et al., 2010; Norman et al., 2012; Widom et al., 2012). The prevalence of CM in The Netherlands is estimated as at least 3% (Alink et al., 2011; Euser et al., 2010). The Emergency Department (ED) represents the main system entry for crises-based health care visits and as such provides an opportunity to detect CM. It is estimated that, depending on inclusion criteria, 0.3–3% of children visit the ED because of CM (Louwers et al., 2011; Monuteaux et al., 2012; O'Donnell et al., 2012; Woodman et al., 2008). At the same time literature shows that CM is under detected by clinicians as well as nursing staff (Gilbert et al., 2009a; Jenny et al., 1999; Oral et al., 2003, 2008;

\* Corresponding author. Department of Social Paediatrics, Emma Children's Hospital – Academic Medical Centre, P.O. Box 22660, 1100 DD Amsterdam, The Netherlands. Tel.: +31 20 5668174; fax: +31 20 5669683.

E-mail addresses: [a.h.teeuw@amc.nl](mailto:a.h.teeuw@amc.nl), [kinder mishandeling@amc.nl](mailto:kinder mishandeling@amc.nl) (R.A.H. Teeuw).

Pandya et al., 2009; Ravichandiran et al., 2010; Sidebotham and Pearce, 1997; Taitz et al., 2004). Early identification and intervention are vital to reduce the likelihood of further CM (Carty and Pierce, 2002; Jenny et al., 1999; King et al., 2006). As a consequence many EDs have started to use screening instruments for CM (Benger and Pearce, 2002; Louwers et al., 2010; Sidebotham and Pearce, 1997; Teeuw et al., 2011; Woodman et al., 2008, 2010).

In 2000 the ED of the Academic Medical Center (AMC) in Amsterdam implemented a Dutch checklist, the SPUTOVAMO checklist (from here on referred to as SPUTOVAMO, see Table 1), with 9 risk factors in order to detect CM (Louwers et al., 2011). Although SPUTOVAMO to date has not been formally validated, its nationwide implementation, or variations on SPUTOVAMO, has been made mandatory in 2009 by the Dutch Health Care Inspectorate (Hoytema van Konijnenburg et al., 2013; Inspectie voor de Gezondheidszorg, 2008). Although the phrasing in the SPUTOVAMO is very much directed towards injuries, in clinical practice it is also being used for other complaints, e.g. abdominal pain or fever.

In 2010 a study by Pless et al. showed that, in their patient population consisting of children under 6 years of age seen at the ED with an injury or poisoning, a screening method consisting of a full physical examination in combination with a 10-point checklist had a sensitivity of 89% for the detection of CM, with a false-positive rate of only 1% (Pless et al., 1987). Based on these promising results we added the so called 'top-toe' inspection (TTI), a full physical examination of the undressed patient, to the screening protocol in our centre.

The aim of our study is to evaluate the implementation of the new protocol (consisting of both the checklist and fully undressed top-to-toe inspection), mandatory for every patient 0–18 years old presenting at the ED, directly after introduction and 9 months later. We are not aware of other published studies with the aim to evaluate implementation of screening tests for CM. The studies of Louwers et al., aimed at determining the value of a checklist for CM and performed in the Dutch healthcare setting as well, shows that

**Table 1**  
Dutch SPUTOVAMO checklist.

The 9 questions on the Dutch SPUTOVAMO checklist	
Which type of injury? (contusion, stab wound, burn, cut et cetera)	
Which place? (construct drawing)	Is this a normal place for this kind of injury? <input type="checkbox"/> yes <input type="checkbox"/> no*
What are the external characteristics of the injury? (colour, form, border, et cetera)	Does the injury look usual? <input type="checkbox"/> yes <input type="checkbox"/> no*
When did the accident happen? How much time ago?	Does the appearance of the injury fit with the stated age? <input type="checkbox"/> yes <input type="checkbox"/> no*
What was the cause of the accident? What explanation is given?	Does the explanation fit with sort, place and appearance of the injury? <input type="checkbox"/> yes <input type="checkbox"/> no* <input type="checkbox"/> doubtful*
Who caused the accident?	Is this person present in the ED? <input type="checkbox"/> yes <input type="checkbox"/> no* <input type="checkbox"/> not applicable
Were witnesses present? Who?	Are the witnesses present in the ED? <input type="checkbox"/> yes <input type="checkbox"/> no* <input type="checkbox"/> not applicable
What measures were taken by parents, carers or others?	Were the undertaken measures appropriate? <input type="checkbox"/> yes <input type="checkbox"/> no* Why not?
Which old injuries can be seen?	Did somebody perform an inspection for old injuries? <input type="checkbox"/> yes <input type="checkbox"/> no Were old injuries found? <input type="checkbox"/> yes* <input type="checkbox"/> no Do you have a suspicion of child maltreatment? <input type="checkbox"/> yes* <input type="checkbox"/> no

Translation of the Dutch SPUTOVAMO checklist for child maltreatment at the ED. SPUTOVAMO is an acronym in which each letter represents one question on the form.

\* Direct referral for further assessment by specialized paediatrician.

completion of this checklist was only successful in 36–79% of paediatric ED visitors (Louwers et al., 2011, 2012, 2014). We will describe the completion of both instruments over time and the relationship between completion and age, gender, reason for visiting the ED (defined by International Classification of Disease, ICD), the presence of a chronic illness, type of professional performing the TTI and admission during week or weekend days.

## 2. Methods

Setting of this study was the ED of a large teaching hospital in Amsterdam. In The Netherlands, the ED is a place where patients are seen with acute problems. Patients have to be referred to the ED by a general practitioner (GP), or can visit the ED directly, which is discouraged. The GP is a first-line doctor who is in most non-life-threatening cases consulted by patients with their complaints. Most health problems will be treated by the GP, if the GP thinks specialized care is needed, he/she will refer to the OPD for non-acute complaints, or the ED for acute problems.

Prior to the addition of TTI to the screening protocol for CM, extensive training sessions were held. Nurses and physicians of the ED were invited for a full day in-house training session. In this session they received theoretical background on CM, instruction on how to perform the TTI, injury recognition using images of CM related injuries, and communication role-play training with actors. Attendance of the training was mandatory and all involved professionals were trained. Barriers of the professionals against the new protocol were collected and discussed. After this initial training the ED physicians received another instructional exercise with volunteers of three different age groups: infants, school-aged children and adolescents. During the study period, between February 2010 and November 2010, staff turnover was estimated to be 15%. All new personnel received a short introductory course consisting of a theoretical lecture about CM and the TTI, followed by three or more supervised TTIs in patients.

All patients between the ages of 0 and 18 years who presented in our ED were included in the study. According to protocol SPUTOVAMO was to be completed by the ED triage nurse in all cases. Patients admitted to the paediatric ward should have a TTI performed by a paediatrician, those directly admitted to the ED by an ED physician and those admitted to other specialties should have the examination done by an ED nurse (see Fig. 1). Both forms (SPUTOVAMO and TTI) gave the professional the opportunity to document reasons for not performing these screening tests. In some cases, based on hospital triage rules, non-referred patients are sent to the general practitioner, who practices on the hospital grounds, by the ED triage nurse. In these cases SPUTOVAMO should be completed, but by protocol these children do not undergo a TTI (see Fig. 1).

### 2.1. Data collection and processing

We collected data for two separate months, first directly after the introduction of the TTI to the screening protocol (February 2010) and 9 months later (November 2010). Primary outcome measure was completion of SPUTOVAMO and TTI. Furthermore we collected data on possible factors influencing completion of SPUTOVAMO and/or performing TTI. These factors were:

1. Patient's age and gender
2. Reason for visiting the ED classified using the ICD-10 in 17 categories: (0) unknown, (1) infection, (2) neoplasm, (3) endocrine, feeding disorder, metabolic or immune disease, (4) haematology (5) psychiatry, (6) central nervous system and senses, (7) heart and blood vessels, (8) respiratory system, (9) gastro-intestinal system, (10) urogenital system, (11) obstetric complications,

Download English Version:

<https://daneshyari.com/en/article/2609425>

Download Persian Version:

<https://daneshyari.com/article/2609425>

[Daneshyari.com](https://daneshyari.com)