International Journal of Nursing Studies 52 (2015) 10–21

Contents lists available at ScienceDirect

International Journal of Nursing Studies

journal homepage: www.elsevier.com/ijns

Predictors of parent post-traumatic stress symptoms after child hospitalization on general pediatric wards: A prospective cohort study

Linda S. Franck [a,b,*], Jo Wray [b,c], Caryl Gay [a], Annette K. Dearmun [d], Kirsty Lee [b,1], Bruce A. Cooper [a]

[a] University of California, San Francisco, United States
[b] University College London, United Kingdom
[c] Great Ormond Street Hospital, London, United Kingdom
[d] Oxford Children's Hospital, United Kingdom

ARTICLE INFO

Article history:
Received 15 January 2014
Received in revised form 14 June 2014
Accepted 27 June 2014

Keywords:
Anxiety
Child hospitalization
Coping
Depression
Parents
Post-traumatic stress symptoms
Uncertainty

ABSTRACT

Objective: The aim of this study was to identify predictors of parental post-traumatic stress symptoms following child hospitalization.
Methods: In this prospective cohort study, a sample of 107 parents completed questionnaires during their child's hospitalization on pediatric (non-intensive care) wards and again three months after discharge. Eligible parents had a child expected to be hospitalized for three or more nights. Standardized questionnaires were used to assess parent distress during the child's hospitalization, parent coping strategies and resources, and symptoms of post-traumatic stress after the hospitalization. Correlations and multiple regressions were used to determine whether parent distress during hospitalization and coping strategies and resources predicted post-traumatic stress symptoms three months after the child's discharge, while controlling for relevant covariates.
Results: Three months after the child's hospital discharge, 32.7% of parents ($n = 35$) reported some degree of post-traumatic stress symptoms, and 21.5% ($n = 23$) had elevated (≥ 34) scores consistent with a probable diagnosis of post-traumatic stress disorder. In the multivariable model, parent anxiety and uncertainty during hospitalization and use of negative coping strategies, such as denial, venting and self-blame, were associated with higher post-traumatic stress symptoms scores at three months post-discharge, even after controlling for the child's health status. Parental anxiety and depression during hospitalization moderated the relationship between negative coping strategies and post-traumatic stress symptoms.
Conclusions: More than one quarter of parents of children hospitalized on pediatric (non-intensive care) wards experienced significant post-traumatic stress symptoms after their child's discharge. Parents' hospital-related anxiety, uncertainty and use of negative coping strategies are potentially modifiable factors that most strongly influenced post-traumatic stress symptoms. Further research is urgently needed to test the effectiveness of different methods to provide psychological, emotional and instrumental support for parents, focusing on increasing parent coping resources and reducing distress during hospitalization.

* Corresponding author at: Department of Family Health Care Nursing, University of California, San Francisco, Koret Way, N411F, Box 0606, San Francisco, CA 94143, United States. Tel.: +1 415 476 4433/476 4587; fax: +1 415 753 2161.
E-mail address: linda.franck@nursing.ucsf.edu (L.S. Franck).
[1] Formerly.

http://dx.doi.org/10.1016/j.ijnurstu.2014.06.011
0020-7489/

What is already known about the topic?

- Post-traumatic stress symptoms are common among family members of intensive care unit patients, but little is known about parents of children hospitalized on general pediatric wards.
- High parental distress during a child's hospitalization is a barrier to effective involvement in a child's care, can adversely affect the child, and is associated with negative long-term adjustment of parents and children.

What this paper adds

- Parent post-traumatic stress symptoms are associated with hospital-related stress even when controlling for other known predictors such as length of hospital stay, single parent status and the child's health status following hospitalization.
- Parent anxiety, uncertainty and negative coping style during child hospitalization are positively associated with post-traumatic stress symptoms among parents three months after their child's discharge; the effect of negative coping style is moderated by anxiety and depression.

1. Introduction

One in every 10–15 children in England and an estimated 1 in every 19 children in the US are hospitalized each year for a wide range of surgical and non-surgical conditions (National Health Service (England), 2013, U.S. Department of Health and Human Services et al., 2012). Although outcomes are generally good, there has been growing awareness over the past several decades of the psychological trauma for children and their parents that can occur with hospitalization and which can undermine the child's recovery and overall well-being of the family.

Child hospitalization can be stressful for parents regardless of the child's acuity or diagnosis (Commodari, 2010; Franck et al., 2010; Nabors et al., 2013). However, research has focused on the psychological and social stresses experienced by parents of children with specific medical conditions (e.g., cancer (Hoekstra-Weebers et al., 2012), burns (Hall et al., 2006), traumatic injury (Kassam-Adams et al., 2009), cardiac surgery (Helfricht et al., 2008), preterm birth (Shaw et al., 2009) or in specific contexts (e.g., intensive care (Colville et al., 2009; Landolt et al., 2003)). High parental distress (i.e., anxiety, depression, uncertainty) is a barrier to effective participation in their child's care and can adversely affect the hospitalized child (Power and Franck, 2008). It has also been associated with negative long-term adjustment for parents and children (Alisic et al., 2011; Dunn et al., 2012; Kassam-Adams et al., 2009; Landolt et al., 2003; Nugent et al., 2007).

Research regarding the long-term effects of hospital-related stress, also known as medical trauma, on family members has predominantly focused on relatives of patients with life-threatening or life-limiting illnesses. A recent review of the literature suggests that a significant number (30–70%) of family members of intensive care unit (ICU) patients experience symptomatic anxiety and depression, or post-traumatic stress symptoms (PTSS) for months or years afterwards (Davidson et al., 2012). The prevalence of symptoms consistent with a diagnosis of post-traumatic stress disorder (PTSD) is estimated to be 10–40% in parents of children with potentially life-threatening or life-limiting conditions (Bronner et al., 2009; Horsch et al., 2007; Landolt et al., 2003; Stoppelbein et al., 2013). Among the proposed risk factors for PTSS in family members are younger age and female gender, a lower educational level, unpartnered status, pre-existing anxiety or depression (or both), other mental illness (or family history of), and lack of social support. Patient characteristics such as young age, chronic and/or life-limiting illness also increase the baseline risk for acute stress disorder and PTSS in family members. The hospital experiences of family members also influence their risk for PTSS. These include factors related to the patient's clinical course, distance between home and hospital, communication with health professionals, satisfaction with care, uncertainty and involvement in decision-making, as well as personal factors such as anxiety, depression, and degree of social support.

Research on stress and coping of parents whose children are hospitalized for life-threatening conditions is consistent with the post-intensive care syndrome – family (PICS-F), a term coined by the task force of the Society of Critical Care Medicine (Davidson et al., 2012) to represent PTSS and related complications experienced by families after their loved one's ICU hospitalization. However, there remains a lack of clarity regarding the relationships between the pre-existing and hospital experience factors when a child is hospitalized on a general pediatric ward. For example, parental coping resources, uncertainty and social support are thought to moderate or mediate parental stress when a child is ill, but research has not yet produced a definitive model of the interactions (Barrera et al., 2004; Hoekstra-Weebers et al., 2012; Santacroce, 2003).

In a recent study of parents residing in a Ronald McDonald House® (RMH) during their child's hospitalization, family functioning mediated the relationship between family hardiness and caregiver anxiety, with both family functioning and hardiness reducing anxiety during the hospitalization (Nabors et al., 2013). Distance from the hospital has also been shown to affect family function when children have chronic conditions (Yantzi et al., 2001).

Less is known about the factors that interact to affect post-hospital mental health for parents. Only one small study was found that compared mental health outcomes of parents of children admitted to pediatric ICU with those of parents of children admitted to a general pediatric ward. The study found that 27% (9/33) of parents of ICU-admitted children developed PTSS compared with 7% (2/29) for ward-admitted children, but there were no differences in anxiety or depression between the two groups (Rees et al., 2004).

PTSS is likely to have negative long-term effects on the adjustment of both parents and children (Bakker et al., 2010), although the majority of work in this area has been conducted in the field of oncology. For example, the impact of PTSS on subsequent psychological adjustment was