academicJournals

Vol. 6(7), pp. 223-228, July 2014
DOI: 10.5897/JPHE2013.0565
ISSN 2006-9723
Article Number: 4F3CA9F45462

http://www.academicjournals.org/JPHE

Journal of Public Health and Epidemiology

Full Length Research Paper

Nightmares: Knowledge and attitudes in health care providers and nightmare sufferers

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Received 14 August, 2013; Accepted 16 June, 2014

Chronic nightmares have a prevalence of 3 to 8% in the general population, but they seem not to play a relevant role in the health care system despite the existence of evidence-based treatments. The aim of this study was to identify nightmare-related knowledge, attitudes and coping approaches in the German mental health care system. A total of 219 health-care providers (primary care, psychiatrists, psychotherapists, in-patient versus out-patient) and another 335 nightmare sufferers were interviewed by telephone and/or filled out self-rating questionnaires. They were asked to estimate nightmare prevalence, to specify nightmare causes and how they cope with nightmares. Health care providers were asked to estimate the relevance of nightmares and the need for treatment. All groups overestimated the prevalence of nightmares. Stress, traumatic events and inner conflicts were rated the highest regarding the possible causes of nightmares, with small differences between the groups. Only a minority of nightmare sufferers tried coping strategies on their own and rated them as being moderately helpful. About one third asked health care providers for help, mainly from general practitioners and medical specialists, but rated this a little helpful. Health care providers rated the relevance of nightmares and the need for treatment as being of moderate importance. Given the high prevalence of clinically relevant nightmares and the fact that helpful and efficient treatment approaches exist, all parts of the health care system as well as the nightmare sufferers need to be better informed. That may help to decrease nightmare disorders.

Key words: Nightmares, health care system, treatment, coping.

INTRODUCTION

Nightmares are defined as extremely frightening dreams and highly emotional experiences from which the dreamer wakes up directly. After awakening, the dreamer is oriented and can give a description of the dream and the emotion felt during the nightmare (DSM-IV-TR, American Psychiatric Association, 2000). The International Classification of Sleep Disorders (ICSD-2, American Academy of Sleep Medicine, 2005) gives a broader range of affective representations and defines nightmares as dreams with strong negative emotions. Whether nightmares differ from “bad dreams”, which also cause negative effects but without awaking, has been discussed by several authors (Zadra and Donderi, 2000; Spoormaker, 2008). There are specific typical themes in nightmares, such as falling, being chased, being paralyzed, being late and the death of someone close to the dreamer (Schredl, 2010). Nightmares are among the most frequent sleep disorders (Nielsen, 2011). Among

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young adults, 70 to 90% report having had nightmares in their childhood (Englehart and Hale, 1990). Nightmares are most prominent in children from five to ten years of age. In this age group, children report nightmares once a week (Schredl, 2009). In the general population about three to eight percent suffer from frequent nightmares (Bixler et al., 1979; Stepansky et al., 1998; Spoormaker et al., 2006). Prevalence rates in clinical populations are considerably higher (Ohayon et al., 1997; Taskanen et al., 2001; Krakow and Zadra, 2006). Women suffer from nightmares more frequently than men (Levin and Nielsen, 2007; Schredl and Reinhard, 2011) and nightmare rates decrease with age (Schredl, 2009; Schredl and Reinhard, 2011).

Even though nightmares are not a primary focus of psychotherapy or psychiatry, several evidence-based treatment approaches for nightmares have been adapted or developed over the past three decades (Spoormaker, 2008). The first nightmare-specific approaches were based on exposure (Burgess et al., 1998; Grandi et al., 2006) and systematic desensitization (Cellucci and Lawrence, 1978; Miller and DiPalato, 1983). While these approaches reduced nightmare symptoms, they were not well accepted by patients and are rarely used. A different approach, Imagery Rehearsal Therapy (Krakow et al., 1993; Krakow and Zadra, 2006) is aimed at changing the nightmare content using imagination and appears to be effective in patients with post-traumatic stress disorder (Forbes et al., 2001, 2003; Krakow et al., 2001a, b), as well in patients with idiopathic nightmares (Krakow et al., 1993; Germain and Nielsen, 2003; Thünker and Pietrowsky, 2012) and other comorbid disorders such as depression (Thünker and Pietrowsky, 2012). A related approach uses the ability of lucid dreaming to change the dream content (Spoormaker and van den Bout, 2006). No evidence could be found for non-specific treatments such as relaxation (Miller and DiPilato, 1983; Burgess et al., 1998), and there are no systematic studies of the effectiveness of education or general improvement of sleeping behavior.

A number of studies have shown that sleep disorders are related to psychological as well as physiological problems and have a negative effect on quality of life (Dement and Mitler, 1993; Léger, 2000; Stores, 2007), indicating that it is of considerable importance for health professionals to learn how to deal with sleep disorders using evidence-based treatment approaches. Dement and Mitler (1993) pointed out that over 80 million US Americans were suffering from serious sleep disorders, which remained untreated, calling for more attention concerning this problem in patient care. Léger (2000) concludes: “There seems to be a lack of understanding between practitioners and patients on the topic of insomnia.” Only very few patients ask their doctors for help regarding sleep disorders. General practitioners seem to have only little knowledge about sleep disorders and their consequences, and appear not to be interested in these problems (Meissner et al., 1998). Sleep disorders in general and nightmares in particular play only a very small role in medical studies and even in psychotherapy. In Germany, where the present study was carried out, we could find almost no information on nightmare treatment in text books for psychotherapists. This lack of knowledge may be the reason why non-organic sleep disorders are underdiagnosed or even misdiagnosed (Stores, 2007). There is very little awareness concerning the recognition of reasons and consequences of disturbed sleep (Haponiket al., 1996; Zozula et al., 2001). In primary patient care, night-mares may often be seen as secondary symptoms of other diseases. Based on the appearance of nightmares and the effectiveness of the therapeutic possibilities, it would be desirable for family doctors to know how to diagnose and treat nightmares (Aurora et al., 2010). According to Nielson and Zadra (2011) guidelines for the diagnosis and treatment of sleep disorders, including nightmares should be developed. Dreamers should be asked about their nightmares as well as their frequency, quality and contents as part of a regular procedure.

On the one hand, a significant number of patients appear to suffer from nightmares. Prevalence rates are higher in clinical populations, but patients without co-morbid mental disorders are affected as well. Moreover, several effective nightmare-specific treatment approaches exist. On the other hand, health care professionals are largely unaware of these treatment approaches, and patients do not know where to look for help concerning their nightmares. Thus, we investigated the following questions: What do general practitioners, psychiatrists, psychotherapists, as well as patients know about night-mares? Are there any differences between health care providers in general and psychologists? Are there any differences between in-patient and out-patient care? What coping strategies do patients use, and which strategies do professionals advise their patients to use? Are these strategies helpful? How relevant do these groups consider nightmare disorders to be? In order to investigate these questions, mental health care professionals as well as nightmare sufferers were asked their opinion using telephone interviews and self-rating questionnaires.

METHODOLOGY

Participants

A total of 548 participants (health care providers and nightmare sufferers) were investigated. Health care providers in out-patient care included 69 general practitioners, 32 psychiatrists and 37 psychotherapists (psychologists). They were recruited from the Yellow Pages and contacted via telephone. Health care providers in in-patient care consisted of 81 medical practitioners and psychologists in psychiatric hospitals. Table 1 shows the overview of the sociodemographic data.

In addition, 335 nightmare sufferers were recruited from internet platforms (41= male; mean age: 28.7 years, standard deviation

Table 1. Sociodemographic data of health care providers (HPC), mean and standard deviation if not otherwise specified.

Care provider	N	Age	Sex (m:f)	Professional experiences (years)
General practitioners	69	53.8 ± 9.0	55:14	25.2 ± 8.8
Psychiatrists	32	51.8 ± 7.2	22:10	21.7 ± 8.8
Psychotherapists (Psychologists)	37	52.8 ± 11.1	16:21	22.7 ± 11.5
In-patient HPC	81	37.7 ± 9.4	29:52	8.7 ± 8.1

Table 2. Means and standard deviations of prevalence and relevance of nightmares and need for treatment.

Parameter	GP	PS	PT	IP	NS
Prevalence (mean, SD)	9.4 ± 9.4	22.6 ± 25.2	17.2 ± 13.9	19.5 ± 17.9	35.8 ± 25.7
Relevance of nightmares for patient care	2.4 ± 1.3	3.5 ± 1.8	3.7 ± 1.8	3.7 ± 1.3	-
Need for Treatment:	2.8 ± 1.4	3.6 ± 1.7	3.3 ± 1.7	3.9 ± 1.5	-

GP: General practitioner; PS: psychiatrist; PT: psychotherapist; IP: in-patient health care providers; NS: nightmare sufferers; prevalence = estimation of nightmare prevalence in the general population; relevance and need for treatment rated on 7-point-Likert-scales with 1 = minimum, 7 = maximum.

(SD)=11.5). On average, they had 12.2 (SD=16.2) nightmares per month and about one third reported further psychological problems, mainly depression (50%), anxiety (19%) and posttraumatic stress disorder (14%). Fifty six patients were taking psychoactive drugs, mainly antidepressants (N=45) and/or neuroleptics (N=14).

Procedure

lth care providers in out-patient care were interviewed on the telephone using semi-structured interviews. In-patient health care providers filled out a paper-and-pencil questionnaire. The nightmare sufferers filled out an online questionnaire.

The interviews and questionnaires were developed specifically for this study and consisted of three parts: questions concerning demographic data, knowledge about nightmares and awareness of coping strategies. The demographic data were assessed in each group. Nightmare sufferers also received questions concerning their mental health and nightmare symptoms. Knowledge about nightmares among health care providers was measured using questions concerning the prevalence of nightmares and their possible causes. All health care providers were asked whether or not they recommend coping strategies, which coping strategies they recommend, and whether they themselves would rate them as helpful. Patients were asked whether they tried coping strategies on their own, asked professionals for help and whether specific coping strategies had been recommended to them. Patients also rated coping strategies and coping recommendations with regard to their helpfulness. Health professionals were asked to give an estimation of the relevance of nightmares in patient care and need for treatment on a 7-point-Likert-scale.

Statistics

Univariate Analyses of Variance (ANOVAs) were conducted for the estimations of prevalence, relevance and need for treatment with "group" as between-subject factor (general practitioners, psychiatrists, psychotherapists, hospital medical practitioners, nightmare sufferers). If the ANOVAs were significant, post-hoc comparisons (Scheffé tests) were conducted for each pair of two groups. For non-parametric data, Kruskal-Wallis tests and Games-Howell procedures were performed, while for dichotomous variables, χ^2-squared tests were calculated. Pearson correlations were calculated to examine the relationship between nightmare prevalence, relevance of nightmares and need for treatment. The 0.05 level of significance was applied to all tests and effect sizes for the ANOVAs are reported as partial η^2. All results are reported as means (± standard deviation), if not otherwise specified.

RESULTS

As variances for the estimation of nightmare prevalence were inhomogeneous (Levene test: $F(4,513) = 23.50$, $p<.05$), the Kruskal-Wallis test was applied to these results. Prevalence rates (in percent) differed significantly between groups ($\chi^2 = 99.11$, df = 4, $p < 0.001$), rated lowest by general practitioners (9.4 ± 9.4) and the highest by nightmare sufferers (35.8 ± 25.7). Post-hoc comparisons revealed that general practitioners differed significantly from both psychotherapists (17.2 ± 13.9, $p < 0.05$) and in-patient professionals (19.5 ± 17.9, $p < 0.05$). All professionals, with the exception of psychiatrists, differed from nightmare sufferers, who overestimated the prevalence of nightmares most ($p < 0.001$ in each case). Table 2 shows all means and standard deviations.

Potential nightmare causes are illustrated in Figure 1. Stress was named as a cause by about two thirds of the overall sample. Psychiatrists rated stress the lowest and differed significantly from general practitioners ($\chi^2 = 6.00$, df = 1, $p < 0.05$), psychotherapists ($\chi^2 = 3.87$, df = 1, $p < 0.05$) and nightmare sufferers ($\chi^2 = 5.83$, df = 1, $p < 0.05$). Traumatic experience was also seen as a possible cause by most participants, but received the lowest rating in the patient sample with patients naming traumatic experiences significantly less frequently than general practitioners ($\chi^2 = 4.89$, df = 1, $p < 0.05$), psycho-therapists ($\chi^2 = 5.56$, df = 1, $p < 0.05$) and in-patient professionals ($\chi^2 = 4.70$, df = 1, $p < 0.05$). Only very few

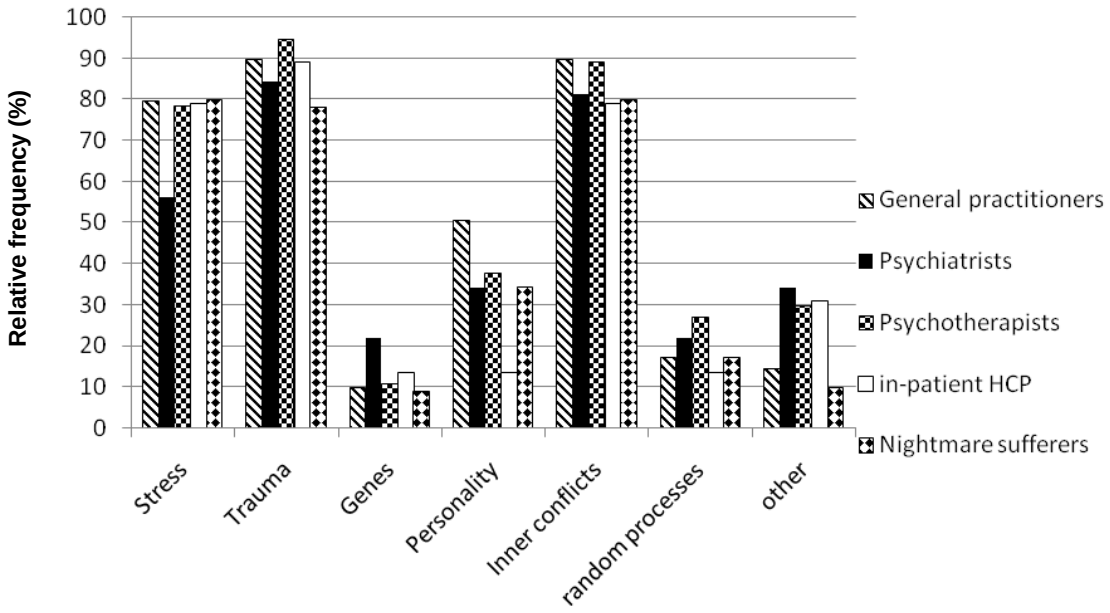

Figure 1. Frequency of causes of nightmares named by the different groups (HCP = Health care providers)

participants attributed nightmares to genetic factors; patients, with the lowest number, differed significantly from psychiatrists ($\chi^2 = 5.38$, df = 1, $p < 0.05$). While half of the general practitioners thought that personality factors are relevant causes of nightmares, only 13.6% of in-patient professionals agreed ($\chi^2 = 24.18$, df = 1, $p < 0.001$). In-patient professionals also differed significantly from psychiatrists ($\chi^2 = 6.32$, df = 1, $p < 0.05$), psychotherapists ($\chi^2 = 8.95$, df = 1, $p < 0.01$) and patients ($\chi^2 = 16.70$, df = 1, $p < 0.001$) in this question, and there was also a significant difference between general practitioners and patients ($\chi^2 = 4.30$, df = 1, $p < 0.05$). Inner conflicts were among the more frequently given potential causes of nightmares in all groups with no significant differences between groups. Only a minority of participants assumed that nightmares are the result of random processes. In addition, 21% of in-patient professionals named side-effects of medication as a potential cause of nightmares.

A total of 140 patients (41.8%) tried coping strategies on their own. Most frequently, patients talked about their nightmares with somebody (15.7%), wrote down their nightmares (15.0%), used relaxation techniques (14.2%) or lucid dreaming (10.7%). Some tried distractions such as reading, listening to audio drama or watching television (2.9%). A minority of patients rated their own coping strategies as helpful (8.6%), or as partly helpful (38%). Of the 195 patients who had not tried coping strategies on their own, most indicated that they had no idea how to deal with their nightmares (26.7%), while 16.9% stated that they had no need of coping strategies due to the low severity of their nightmare symptoms.

Ninety-nine patients (29.6%) reported having asked a health care provider for help. Mainly, general practitioners were consulted (41.4%), followed by medical specialists (38.4%) and alternative practitioners (13.1%). While 3 patients had asked a fortune teller for help, none reported having asked a psychologist. Of the patients who reported asking a health care provider for help, 52 (52.5%) indicated that they got coping recommendations, mainly including psychotropic drugs (23.7%). Moreover, they were advised to reduce stress during the daytime (9.6%), use relaxation techniques (7.7%) or write down their nightmares (7.7%); 3 patients were referred to a psychotherapist. A minority of these 52 patients received were rated the coping recommendations they received as helpful or partly helpful (19%). Thus, majority of the recommendations (76%) provided by health care professionals were not considered helpful by the patients. Only 5.8% of general practitioners reported having looked for information on nightmares, significantly less frequently than psychiatrists (28.1%; $\chi^2 = 9.72$, df = 1, $p < 0.01$), in-patient health care providers (32.1%; $\chi^2 = 15.31$, df = 1, $p < 0.001$) and psychotherapists, who most frequently reported having looked for information on nightmares (59.6%; $\chi^2 = 37.47$, df = 1, $p < 0.001$). Psychotherapists also significantly surpassed psychiatrists ($\chi^2 = 6.80$, df = 1, $p < 0.01$) and in-patient health care providers ($\chi^2 = 8.38$, df = 1, $p < 0.01$). About every fourth nightmare sufferer (27.5 %) had looked for information on nightmares themselves.

Relevance of nightmares for patient care, which was rated only by the health care professionals, significantly differed between the groups ($F(3, 208) = 13.97$, $p < 0.001$). General practitioners rated the relevance of nightmares lower than psychiatrists, psychotherapists

and in-patient professionals (Scheffé post-hoc comparison, $p < 0.001$ in each case). There were no significant differences between the other groups. Similarly, the rating for the need for treatment for nightmares differed between the groups of professionals ($F(3, 213) = 7.08$, $p < 0.001$), again with a significant difference between general practitioners, who rated the need for treatment the lowest, and in-patient professionals, who gave the highest rating (Scheffé-Test, $p < 0.001$).

Prevalence ratings were significantly correlated with estimations of the need for treatment ($r = 0.20$, $p < 0.05$), but were only marginally correlated with relevance of nightmares in patient care ($r = 0.16$, $p < 0.1$). As might be expected, the estimates of relevance and need for treatment were strongly correlated ($r = 0.67$, $p < 0.001$).

DISCUSSION

This study investigated attitudes, knowledge and coping approaches regarding nightmare disorders among health care providers and nightmare sufferers. The results show that even though each group of health care providers overestimated nightmare frequency, they had little knowledge about treatment. Relevance of nightmares and need for treatment were estimated to be of moderate importance despite the overestimate of nightmare prevalence. With the exception of psychotherapists, only a minority of health care providers were reported having looked for information about nightmares or nightmare treatment. Assumptions about the causes of nightmares differ between groups, especially regarding the relevance of stress and personality. This might be due to a lack of knowledge concerning nightmare disorders, but could also be confounded with general suppositions of the various professions. Hardly any professional was reported having recommended evidence-based treatment approaches as a coping strategy.

About every third patient tried out coping strategies on their own, but only a minority was content with the effects. Only one fourth of the patients sought professional help, mainly turning to general practitioners or medical specialists; one had asked a psychologist for help. Only one fourth of the patients who had received coping recommendations rated them as being helpful. However, although nightmare prevalence was highly overestimated, the relevance of nightmares and the need for treatment only received moderate ratings. Even when a person concerned was looking for help, they rarely were recommended to seek professional psychotherapeutic help.

Surprisingly, nobody sought help from the one group of health care providers who would most likely have been able to deal with nightmares in a professional way. Why does nobody suffering from nightmares ask a psychologist or psychotherapist for help? Maybe going to a “shrink” is more strongly stigmatized than one might expect today. Or maybe the patients simply did not know to whom to turn for help.

Two more aspects need particular attention. First, nightmares are often put on par with post-traumatic stress disorder. However, one quarter of the patients did not mention trauma as a causal aspect. Thus, more attention should be paid to idiopathic nightmares as well. Second, only half of the psychiatrists consider stress to be a causal factor for nightmares, while general practitioners in particular considered personality to play an important role. This might indicate that medical professionals tend to overestimate trait factors and underestimate alterable factors to the detriment of their estimation of the effects of treatments for nightmares.

What is the implication of this study? While one in twenty people suffers from recurrent nightmares and several effective treatment approaches exist, health care providers do not take care of this problem at all and very few are aware of effective interventions or coping strategies. Thus, we do not primarily need more or better treatment approaches. Self-help approaches and concepts for group and individual therapy already exist. What we need is better dissemination of information within the health care system and among nightmare patients themselves. Particularly since effective and economic treatment approaches exist, it would be helpful for the patients if these treatments would be integrated in routine health care practice. Medical professionals as well as psychotherapists should learn about nightmare disorders and their treatment in their training. This would enable these groups of health care providers to reliably diagnose nightmare disorders and treat them effectively. General practitioners need to know more about the phenomenology and etiology of nightmares and should refer their patients to psychotherapists. Since patients have never consulted a psychotherapist on their own, it is of great relevance that practicioners in the primary care system take care of nightmare disorders and are well informed. If general practitioners refer patients to psychotherapists who are able to treat nightmares with one of the effective interventions, we will attain satisfactory care for nightmare sufferers.

This study was the first to investigate how nightmares are dealt with in patient care independent of other mental disorders. Several different groups were interviewed in order to gain insight concerning the point of view of the primary care health system (general practitioners), other professionals and a large sample of persons concerned with nightmares. Moreover, as we consider various levels of severity of mental disorders, people in an in-patient context were included as well. However, sample sizes differed between groups and the group of in-patients was too small to report meaningful results. The next step should be to develop or to improve information material for the health care system as well as for patients and it should be investigated whether this intervention leads to a positive result. Moreover, results about nightmare

treatment as well as about sleep disorders in general should also be published in interdisciplinary journals, because as pointed out, this is an important issue for the whole health care system and should be communicated among disciplines.

Conclusively, a large number of people suffering from severe nightmares on the one hand was found, and a lack in treatment offers on the other. In our opinion, this discrepancy should be dealt with, as nightmare disorders constrict peoples' activities in daily living as well as their quality of life.

ACKNOWLEDGEMENT

The authors thank Helen-Rose Cleveland for language editing of the manuscript.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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