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Review Article

Attitudes and Beliefs towards Patients with Hazardous Alcohol Use: A Systematic Review

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Objective. To describe emergency department (ED) staff attitudes and beliefs towards patients presenting with hazardous alcohol use and their clinical management. *Methods*. A search of MEDLINE, EMBASE, CINAHL, SCOPUS from 1990 to 2010, and reference lists from included studies was conducted. Two reviewers independently screened for inclusion and assessed study quality. One reviewer extracted the data and a second checked for completeness and accuracy. *Results*. Among nine studies four reported varied beliefs on whether screening was worthwhile for identifying hazardous alcohol use (physicians: 42%–88%; nurses: 50%–100%). Physicians in three studies were divided on intervention provision (32%–54% in support of intervention provision) as were nurses in two studies (39% and 64% nurses in support of intervention provision). Referral for treatment was identified in two studies as an important part of ED management (physicians: 62% and 97%; nurses: 95%). Other attitudes and beliefs identified across the studies included concern that asking about alcohol consumption would be seen as obtrusive or offensive, and a perceived lack of time and resources available for providing care and referrals. *Conclusions*. ED staff had varying attitudes towards ED management of patients with hazardous alcohol use. Investigations into improving clinical care for hazardous alcohol use are needed to optimize ED management for these patients.

1. Introduction

Hazardous alcohol use is well known to increase an individual's risk of injury due to violence or accidents [1, 2]. Acute treatment and care for alcohol-associated morbidities are often sought in hospital emergency departments (EDs), with ED patients more likely than primary care patients and the general population to report hazardous alcohol use [3–7]. In 2007, almost 3 million ED visits across the USA (2.3% of all ED visits) were primarily related to alcohol and cost the health care system $1.3 billion dollars [8].

The high volume of alcohol-related presentations to the ED presents an opportunity for staff to detect hazardous alcohol use, optimize care decisions, and initiate preventative interventions [4]. Patient management approaches using the SBIRT model (Screening, Brief Intervention, Referral to Treatment) have been evaluated in the ED with mixed impact [9, 10]. The SBIRT model uses a public health approach to universal screening for substance use problems. It can rule out nonproblem substance users and identify the level of risk, and who will benefit from a brief advice. The SBIRT model can be used as a stand-alone treatment or combined with other treatment [11, 12].

A large number of studies have demonstrated short-term effects on reducing alcohol use or associated harms and cost-effectiveness for adult patients; however, several studies have

also reported statistically nonsignificant effects [13–35]. The current position of the U.S. Preventive Services Task Force is that there is at least fair evidence to support the use of screening and brief intervention (BI) for those patients who screen positive for hazardous alcohol consumption [36]. In 2006, the American College of Surgeons mandated alcohol screening and intervention for trauma patients admitted to Levels 1 and 2 trauma centers [37]. Despite this, recent evidence suggests that ED-based SBIRT is largely absent in these settings [38]. This absence may be due, in part, to attitudes and beliefs of ED staff [4, 39]. Translational research for ED-based SBIRT with specific attention to barriers to successful implementation including attitudes and beliefs has been recommended [39]. The objective of this systematic review was to describe ED nurses' and physicians' attitudes and beliefs towards patients with hazardous alcohol use and their clinical management.

2. Methods

2.1. Search Strategies. Guided by input from the research team, a research librarian developed and implemented a systematic search strategy using language (English) and year (1990 to 2010) restrictions. The search was conducted in February 2010 and updated in June 2010. We used the EBSCOhost portal, encompassing the MEDLINE, EMBASE, CINAHL, and Scopus databases to conduct the search. We also searched our keywords in Google Scholar and the reference lists of retrieved studies. In our search we used the following key words and MeSH headings: "alcohol," "attitudes OR beliefs," "emergency department," "Alcohol-Related Disorders," "Attitudes of Health Personnel," "Emergency Service or Emergency Medicine," and "Physician-Patient Relations."

2.2. Study Selection. Two reviewers independently screened the search results (NM, HZ). The full manuscripts of potentially relevant studies were retrieved if they were identified as relevant by at least one of the reviewers, and then independently confirmed for inclusion by two reviewers (NM, HZ). The same reviewers also independently assessed study inclusion/exclusion. Studies were included at the screening and inclusion/exclusion stages if a primary objective was to determine attitudes and beliefs of ED staff (physicians and nurses) towards patients presenting with hazardous alcohol use or their clinical management in the ED. No restrictions were placed on study design (qualitative or quantitative) or patient age. Studies were excluded if they met any of the following criteria: (1) they were conducted in any language besides English, (2) they studied a non-ED setting, (3) the study of attitudes and beliefs was not a primary objective, or (4) they examined attitudes and beliefs towards polysubstance use or the hazardous use of substances other than alcohol.

2.3. Assessment of Quality. Two reviewers (NM, HZ) assessed study quality. Disagreements were resolved with third party discussion (ASN) until mutual agreement was achieved. The quality assessment of quantitative studies depended on study design. Observational studies were assessed using questions adapted from Guyatt, Sackett, and Cook's (1993) User Guide to Medical Literature by the Critical Appraisal Skills Program [40]. The questions targeted the study's focus, methods, biases, and results presentation including practicality and applicability. Qualitative studies were assessed using a tool developed for the study by the research team (available from the corresponding author upon request). The tool evaluated studies based on the following domains: validity of the study design, setting, and sampling; informed consent and appropriately addressed ethical issues; methodological reporting; efforts to establish credibility and validity; the dependability and reliability of study data.

2.4. Data Extraction and Synthesis. Data from the final set of studies were extracted using a standardized form that assessed key study characteristics (e.g., year of publication, country), characteristics of the study population and setting, and results specific to ED staff attitudes and beliefs. Data were extracted by one reviewer (NM) and checked for accuracy and completeness by a second reviewer (HZ). Discrepancies were resolved by consensus. Published data and tests of significance reported by study authors were included. In the case of unclear or unreported information in the original studies, primary authors were contacted. Meta-analyses were not conducted due to heterogeneity of study definitions and measurement. A qualitative analysis was conducted, and detailed findings are presented in evidence tables. Results are presented by design: controlled trial, observational studies, and mixed method and qualitative studies.

3. Results

3.1. Description of Included Studies. Figure 1 describes the flow of studies through the selection process. The search strategies identified 352 studies as potentially relevant. After title and abstract review, 37 papers were selected for manuscript retrieval and full review, with 9 studies meeting our inclusion criteria after full-text review: seven observational studies, one qualitative, and one mixed method study [41–49]. General characteristics of the studies are summarized in Table 1. These studies, published between 1998 and 2009, were conducted in the United States ($n = 2$), United Kingdom ($n = 2$), Sweden ($n = 2$), Scotland ($n = 1$), Australia ($n = 1$), and China ($n = 1$). The majority of studies sampled physicians only ($n = 4$), but studies reporting information from both physicians and nurses ($n = 3$) or nurses only ($n = 2$) were also included in the review. Study objectives were similar between studies; they either examined ED health care professionals' attitudes and beliefs towards adult patients with presentations for hazardous alcohol use or towards the SBIRT model.

3.2. Methodological Quality

3.2.1. Observational Studies. The seven observational studies met requirements for many of the critical components

Table 1: Study characteristics.

First author (country, year)	Study design	Participants		
		Sample	Gender (% F, M)	Response rate (%)
D'Onofrio (USA, 2002)	Nonrandomized controlled trial	$N = 36$ Physicians[‡]: 100%	28% F, 72% M	100
Indig (Australia, 2009)	Cross-sectional survey	$N = 78$ Nurses: 54%; physicians: 46%	Physicians: 44% F, 56% M Nurses: 80% F, 20% M	30
O'Rourke (USA, 2006)	Cross-sectional survey	$N = 598$ Staff physicians: 66%; residents[‡]: 34%	32% F, 68% M	17
Huntley[§] (UK, 2004)	Cross-sectional survey	$N = 127$ Physicians: 100%	NS	100
Chung (China, 2003)	Cross-sectional survey	$N = 190$ Nurses: 100%	84% F, 16% M	32
Anderson (Scotland, 2001)	Cross-sectional survey	$N = 96$ Physicians: 36%; nurses: 63%	Physicians: 9% F, 91% M Nurses: 83% F, 17% M	57
Graham (USA, 2000)	Cross-sectional survey	$N = 257$ Physicians: 100%	19% F, 81% M	46
Waller (UK, 1998)	Cross-sectional survey	$N = 367$ Physicians: 46%; nurses: 54%	Physicians: 15% F, 85% M Nurses: 78% F, 22% M	82
Karlsson (Sweden, 2005)	Mixed method	Interview, $N = 9$; questionnaire, $N = 72$ Nurses: 100%	NS	75
Nordqvist (Sweden, 2005)	Qualitative	$N = 6$ Physicians: 100%	34% F, 66% M	100

[‡] Medical residents; NS: not specified; [§] Huntley also reported qualitative results from a separate study; M: male; F: female.

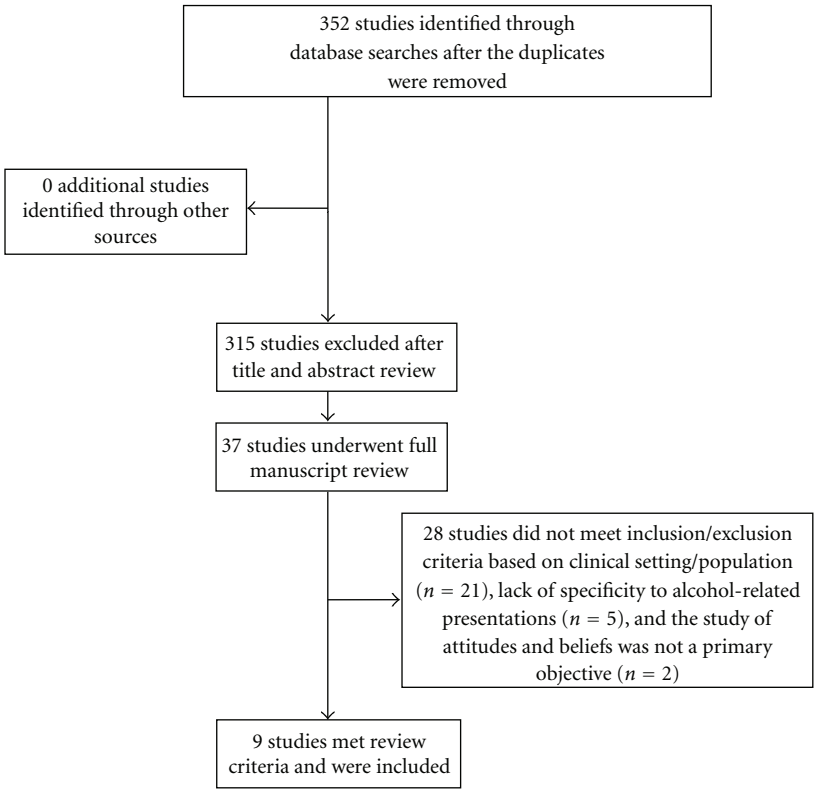

Figure 1: Selection of studies.

identified by the Critical Appraisal Skills Programme [40]. Four studies were limited by a lack of power calculation [41, 43, 46, 47]. Two studies were limited by volunteer bias resultant from convenience sampling [46, 47]. Study strengths included providing a clear focus and presenting results with adequate data analyses [41, 43, 46, 47]. Four studies also had clear discussions addressing the research/clinical implications of the findings with references to other studies [41, 43, 46, 47]. Study applicability was addressed by two studies [46, 47]. Three studies were prone to methodological weaknesses such as volunteer bias resultant from convenience sampling [43, 44]. Three studies did not provide a sample size calculation [42, 44, 45]. There was no description of analytical procedures in one study [42]. One study did not use validated measures [45]. Across all observational studies, many had limited applicability to North American emergency care settings, as they were conducted in European and Asian settings utilizing different health care systems and models [41, 44, 45, 47].

3.2.2. Mixed Method and Qualitative Studies. Both the mixed method and qualitative studies in this paper were clear in research focus, but did not provide sufficient explanation to justify the specific qualitative methodology used [48, 49]. However, sampling strategies and data collection methodology were carried out appropriately in both studies. The studies did not describe informed consent procedures or the issue of participant anonymity. Use of multiple data sources and data triangulation enhanced the credibility and validity of one study's findings [48].

3.3. Attitudes and Beliefs of ED Staff towards SBIRT. Figures 2 to 4 present the attitudes and beliefs of ED staff towards SBIRT for patients presenting with hazardous alcohol use. ED staff attitudes towards screening varied (Figure 2). Across two studies, from 42% to 88% of physicians and from 50% to 100% of nurses believed that it was worthwhile to identify hazardous alcohol use in the ED [41, 47]. One study reported that 60% of surveyed physicians and residents believed screening for hazardous alcohol use would improve treatment success [46]. Beliefs regarding who was responsible for screening differed. Huntley et al. reported almost all of surveyed physicians believed that it was their responsibility to screen for alcohol use (98%) while Indig et al. reported only 50% of physicians and 35% of nurses believed that they were responsible for screening [45, 47]. Support for BI for hazardous alcohol use was variable amongst ED staff (Figure 3). Both the Anderson and Waller studies reported that 65% of physicians and 71–75% of nurses believed it was worthwhile to perform BI [41, 43]. Two studies reported less support (51% and 54%) by physicians in the use of BI [42, 46]. A minority of ED staff in Indig et al.'s study believed they were responsible for providing BI (32% of physicians and 39% of nurses) [47]. Indig also reported that 62% of physicians and 95% of nurses believed it was worthwhile to make referrals for specialist treatment (also reported by Huntley et al.), although only 53% of physicians and 51% of nurses believed they were responsible for referring to a specialist (Figure 4) [45, 47].

3.4. Attitudes and Beliefs Related to the Treatability of Hazardous Alcohol Use. The majority of ED staff felt that something could be done in the ED setting to assist patients with hazardous alcohol use. Only a minority of ED staff in the Waller study believed that the ED setting could do little to assist patients with hazardous alcohol use (33% of physicians, 17% of nurses), a belief also held by a similar percentage of physicians (15%) and very few nurses (2%) in Indig's study [41, 47]. Attitudes and beliefs related to the treatability of hazardous alcohol use were conflicting across the studies. O'Rourke et al. reported that 75% of surveyed physicians believed that alcohol use disorders were treatable, although 80% of those surveyed also believed that current treatments did not work [46]. Graham et al. also reported similar conflicting attitudes and beliefs with 77% of surveyed physicians who agreed that alcohol use disorders were treatable, but also believed that they were difficult to treat (97%) [42]. In contrast, almost all physicians (97%) in the Huntley study believed that treatment could be successful [45].

3.5. Attitudes and Beliefs regarding the Health Care Provider-Patient Relationship. Several studies identified reluctance on the part of ED health care providers to engage in treatment for hazardous alcohol use. Anderson et al. reported that 35% of surveyed physicians and 53% of nurses were hesitant to ask patients about alcohol consumption and believed formal training was required to be able to respond to patients with hazardous alcohol use (53% of physicians, 78% of nurses) [43]. Physicians (46%) and nurses (48%) in Waller's study reported reluctance to question or interact with such patients [41]. Among nurses, Chung et al. reported mixed attitudes towards patients with hazardous alcohol use (mean = 106, SD 13; minimum/maximum score of 27/189 indicating negative/positive attitude) [44]. The belief that patients with hazardous alcohol use lacked motivation to change was cited by physicians (12% and 88%) and nurses (15% and 85%) in two studies [43, 47]. In a qualitative study, Nordqvist et al. found that physicians did not trust the reliability of patients' responses and believed that asking about alcohol use could make patients feel guilty. Physicians in this study also believed that there was little chance of patients reducing their drinking as a result of their interaction with medical staff and did not believe that BI was effective [49]. In Karlsson's study, 11% of nurses believed BI would negatively impact the relationship with patients and that patients would object to participating [48]. Nurses also believed that the subject of alcohol consumption was too sensitive to be discussed in a brief ED visit, with 61% of nurses believing that patients would respond negatively to questions about alcohol use. These concerns also surfaced in other studies. Indig's study found that 24% of physicians and 39% of nurses believed questions about alcohol use were offensive while Andersen et al. reported that 56% of physicians and 90% of nurses surveyed believed that patients found questions about

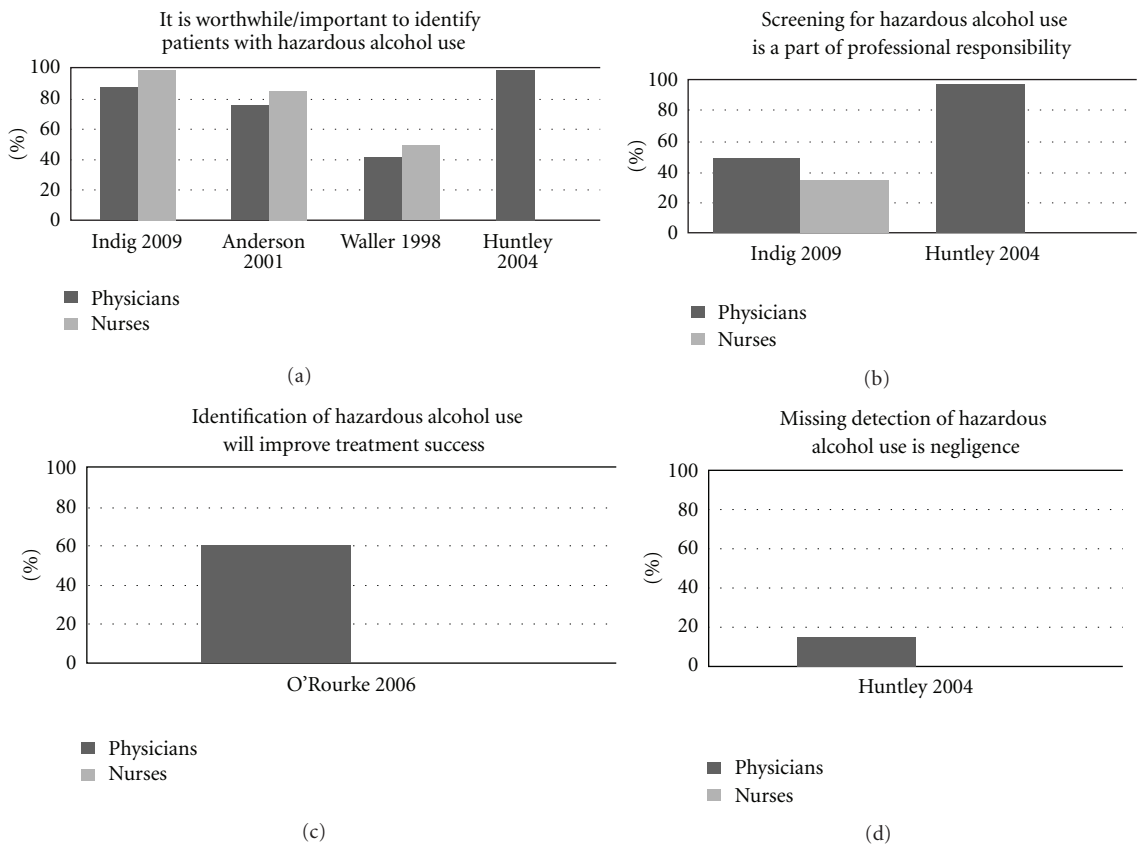

Figure 2: Attitudes and beliefs towards screening for hazardous alcohol use in the ED.

alcohol use offensive and intrusive [43, 47]. Nurses (72%) and physicians (61%) in Waller's study also held similar beliefs [41].

4. Discussion

This paper identified significant variation in ED physicians' and nurses' attitudes and beliefs towards patients with hazardous alcohol use and their management, which may help explain variations in SBIRT model use in the ED. Findings highlight the need to address key issues that underpinned the attitudes and beliefs: perceived time constraints and a lack of resources by ED, concerns that patients would respond negatively to SBIRT, communicating emerging evidence on the SBIRT model to ED staff, and identifying and responding to ED staff learning needs.

The studies in this paper identified that while ED physicians and nurses believed it is worthwhile to screen for hazardous alcohol use, provide BI, and refer for further treatment, far fewer believed they were professionally responsible for these aspects of clinical care and management. The low reports of ED-based SBIRT may be related, in part, to barriers cited across studies in this paper including a perceived lack of time to provide BI, a lack of resources for SBIRT implementation (including specialist staff and support services), and the patient's intoxicated state. The relationship of these barriers to attitudes and beliefs, however, was not examined in the studies. The issues of who is prepared and best able to conduct SBIRT in the ED, and whether SBIRT is appropriate for this clinical setting remain debated. ED-based studies have employed different strategies for SBIRT delivery in the ED including training ED staff (physician, nurse/nurse practitioner, social worker, and emergency medical technician) and health promotion advocates to augment ED staff roles [20, 50]. Another study used designated mental health nurses to conduct post-ED, follow-up appointments [51]. Time constraints and workload concerns voiced by physicians and nurses may be addressed by introducing specialized SBIRT care providers available for ED or post-ED care. ED-based SBIRT providers may address concerns raised by ED staff about patient reactions to SBIRT while post-ED care can address intoxication as a barrier to ED delivery.

The low reports of ED-based SBIRT as a clinical responsibility identified by this paper could also be the result of providers' beliefs that screening would not improve treatment success (believed by 40% of physicians in one study), current treatments do not work (believed by 80% of physicians in one study), or that hazardous alcohol use/substance use disorders are difficult to treat (believed by 97% of physicians one study). According to Nordqvist et al., physicians need to be assured that performing BI is effective and worth the time [49]. Establishing effective

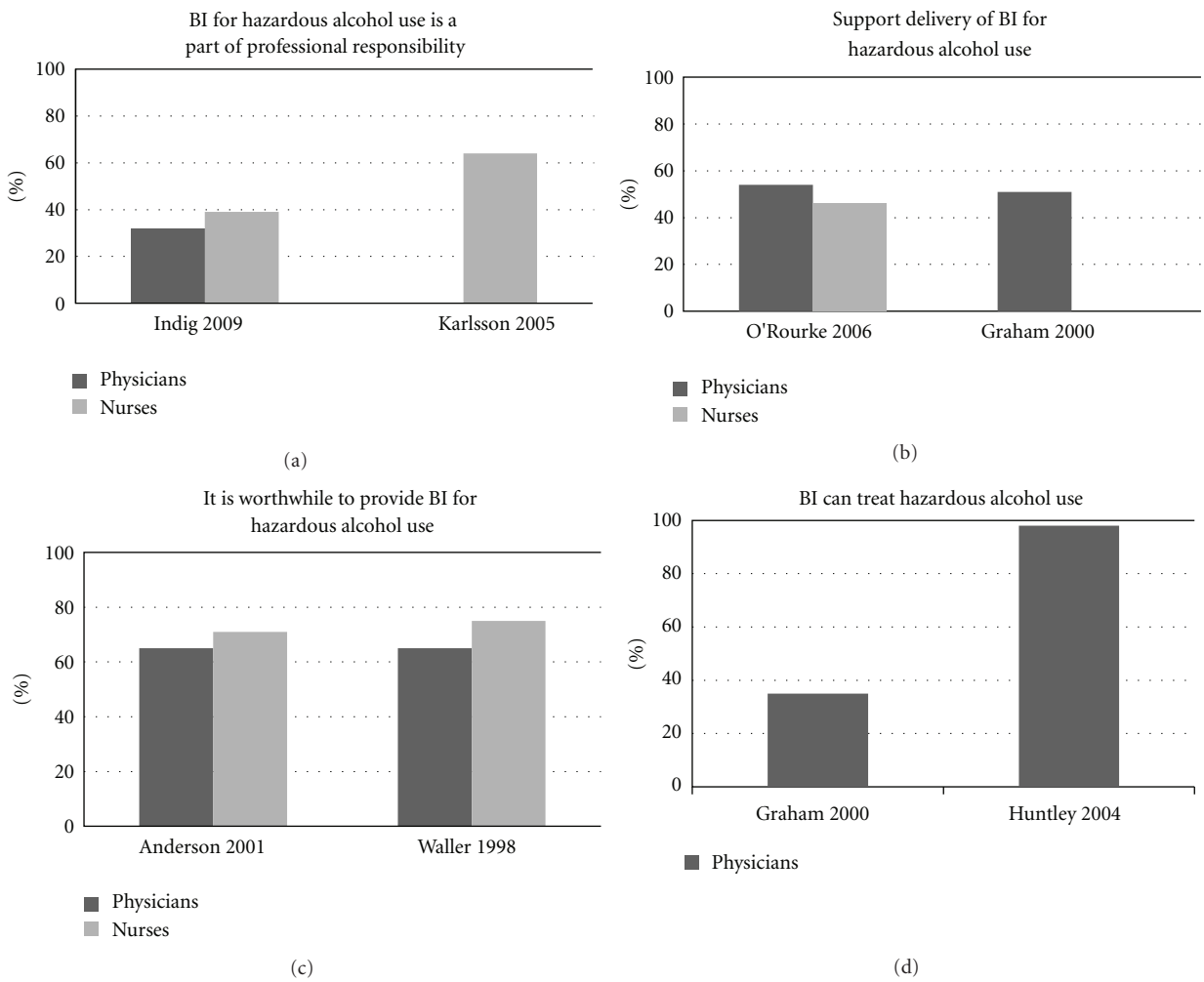

Figure 3: Attitudes and beliefs towards brief intervention (BI) for hazardous alcohol use in the ED.

and timely mechanisms to communicate the growing body of evidence supporting ED-based screening and BI to ED staff may be necessary to address the negative beliefs cited in a large number of studies. Financially compensating physicians for the time it takes to perform SBIRT in the ED, providing adequate supports (personnel, easy access to treatment and referral mechanisms), as well as personalized audit and feedback may also help to improve physician adherence with current recommendations. Further, as new studies address existing methodological limitations (e.g., standardizing outcome measures, establishing effectiveness among patient subgroups such as sex and age) and clinical gaps (e.g., practical screening tools and interventions that complement the busy and hectic nature of an ED) establishing mechanisms to inform ED staff of new evidence in this field will keep staff appraised as to whether SBIRT is not only an effective model, but a feasible model for the ED [39].

A number of issues related to adequate training were cited in the studies. ED staff in two studies cited training as a needed facilitator for patient care and management, and a high percentage of staff in another study identified a lack of confidence in performing screening (50% of physicians and 71% of nurses), BI (71% of physicians and 73% of nurses), and referral (44% of physicians and 59% of nurses) [41, 43, 47]. Several studies have shown an increase in screening and BI delivery in primary and general care settings and in the ED following a variety of educational and training modalities [52–56]. Confidence has also improved for some staff, but not all [55, 56]. Significant changes have not been reported for attitudes and beliefs and readiness to change clinical behaviors [55]. In-person training has been suggested as more effective than web-based resources while educational support and training are suggested to be more impactful with staff who enter training already therapeutically committed to working with patients with hazardous alcohol consumption [57, 58]. Widespread adoption of the SBIRT model in EDs will require more than a small number of studies demonstrating the effects of training programs. An extensive structured literature review conducted by Williams et al. looked at implementation programs of nine countries having geographically diverse clinical settings and research infrastructures [59]. The paper

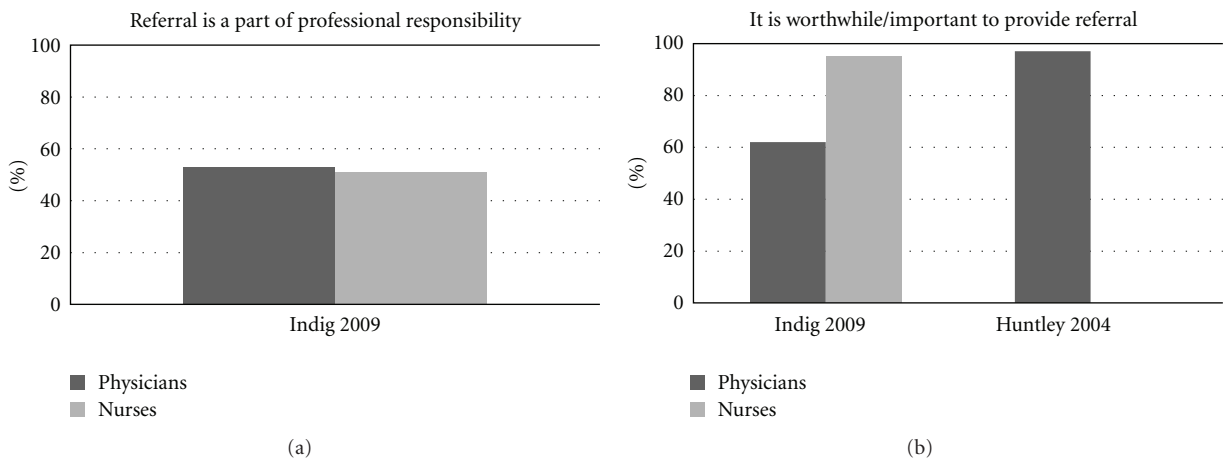

Figure 4: Attitudes and beliefs towards referral to treatment for hazardous alcohol use in the ED.

found different implementation programs and looked at their success/failure in implementing robust SBIRT strategies [59]. This paper, and similar papers indicate the need for change in the policies related to SBIRT in the ED and related clinical settings [20, 39]. Policies and guidelines set at the institutional level and the presence of faculty/administrators that promote and train for the usage of the SBIRT model may also warrant further attention as do studies focusing on strategies to increase the feasibility of SBIRT model use in the ED vis-à-vis cost analyses evaluating the short-term and long-term costs and benefits of SBIRT implementation [39].

5. Limitations of the Study

This review has several limitations. We assessed the methodological quality of studies based on published methods and did not contact corresponding authors to verify the methods used. As a result, some studies may have been adequately conducted, but the methods were poorly reported. We also did not include studies that explored attitudes and beliefs as a minor objective. As a result, two studies were screened but excluded from our review, and others may have been missed in our search strategy [55, 56]. We chose not to include studies that did not have a primary focus of attitudes and beliefs because the depth and breadth of the investigation may have differed from those studies with it as a primary objective. No pediatric studies were identified in this review. Given that underage drinking is widespread and ample evidence exists that underage hazardous alcohol use leads to adult substance use disorders and persistent dysfunction, the role of the ED in addressing hazardous alcohol use by adolescents could play a critical role in identifying those youth who could benefit from treatment and the initial management of hazardous alcohol use through BI and referral [60–71].

There were also limitations in this review that stemmed from the included studies themselves. The majority of the studies in this review were weak to moderate in quality. Studies that reduce the biases and methodological weaknesses observed in the current body of literature are needed. This includes eliminating biases from convenience or selective sampling through randomized sampling procedures or population sampling and reducing the likelihood of volunteer bias through low response rates (6 out of 9 studies had response rates <80%). Future qualitative and mixed methods studies require justification for the chosen methodology to demonstrate that they study answered the research questions and evidence needs to be provided that the researcher took steps to ensure that the conclusions reached are dependable and confirmable. It would be helpful to explore the variations in attitudes and beliefs and create an opportunity to evaluate whether they are substantial barriers to the SBIRT model in the ED.

6. Conclusion

Detection of hazardous alcohol consumption followed by BI in the ED setting has large potential benefits due to the wide population that can be captured and a growing body of empirical evidence favoring ED-based SBIRT. This review suggests that attitudes and beliefs of ED physicians and nurses may be key barriers to the widespread uptake of SBIRT for hazardous alcohol use in the ED setting.

Disclosure

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