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Review Article

**AMBULATORY HEALTH CARE IN COMMUNITY-  
SYSTEMATIC LITERATURE REVIEW**

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**Abstract**

*This review is aiming to discuss the ambulatory health care in community, the presented review was conducted by searching in Medline, Embase, Web of Science, Science Direct, BMJ journal and Google Scholar for, researches, review articles and reports, published over the past years. were searched up to November 2018 for published and unpublished studies and without language restrictions, if several studies had similar findings, we randomly selected one or two to avoid repetitive results. On the basis of findings and results this review found utility of a novel microprocessor-linked Step Watch Activity Monitor (SAM) to quantify ambulatory activity, determine the etiology of community-acquired pneumonia in patients treated in an ambulatory setting, An ability to predict risk of future falling is needed in order to target high-risk individuals for preventive intervention, and to examine the postulated relationship between Ambulatory Care Sensitive Conditions (ACSC) and Primary Health Care (PHC) in different context.*

**Keywords:** ambulatory, health care, community

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**INTRODUCTION:**

EACH YEAR, 750,000 AMERICANS have a stroke, making it the leading cause of adult disability in the United States [1,2]. Nearly two thirds have residual neurologic deficits, which impair mobility and promote a sedentary lifestyle, leading to further functional declines because of physical deconditioning and learned nonuse. [1,3,4]

A major rehabilitation goal for many stroke survivors is a return to home- and community based ambulatory activity, which may reinforce recovery and improve cardiovascular health. [3,5]

The Step Watch Activity Monitor (SAM) is a pager-sized microprocessor-linked accelerometer with adjustable filtering thresholds for motion and cadence parameters. Adjustable calibration enables this programmable monitor to recognize stance and swing components of numerous gait patterns in animals and humans, providing time-integrated ambulatory activity profiles across user-defined epochs. [6]

Community-acquired pneumonia (CAP) is a common illness with about 4 million cases occurring in the United States each year.' Fifty percent to 80% of patients with CAP are treated 'on an ambulatory basis. [7,8]

Visionaries have predicted that widespread availability of EHRs in ambulatory care settings can improve the quality of care, improve communications with patients, reduce transcription costs, provide clinicians with easier cross-coverage, and support decision-making by clinicians and patients. [9-13]

Timely and effective Primary Health Care (PHC) could reduce the risk of hospitalizations due to Ambulatory Care Sensitive Conditions (ACSC) although the magnitude of the effect differs according to specific clinical conditions. [14] The more removed from the intended purpose, the more likely the limitations. For example, admission rates may depend, at least in part, on hospital admission policies as well as on PHC effectiveness. Recent publications have emphasized the need to review carefully the choice of specific indicator when intended as a measure of performance of PHC. [15]

Variability in ACSC lists and in factors associated with hospitalization rates [16,17] raises questions as to the extent to which hospitalizations are actually preventable by PHC, especially under circumstances when hospital staff make the decision on the need for hospitalization and there is variability in admission

criteria within and between hospitals. [18,19]

**METHODS:**

The present review was conducted November 2018 in accordance with the preferred reporting items for systematic reviews and meta-analyses (PRISMA) declaration standards for systematic reviews. We reviewed all the topics on ambulatory health care, such as utility of a novel microprocessor-linked Step Watch Activity Monitor (SAM) to quantify ambulatory activity, determine the etiology of community-acquired pneumonia in patients treated in an ambulatory setting.

An ability to predict risk of future falling is needed in order to target high-risk individuals for preventive intervention, and to examine the postulated relationship between Ambulatory Care Sensitive Conditions (ACSC) and Primary Health Care (PHC) in different context.

To achieve this goal, we searched Medline, Embase, Web of Science, Science Direct, and Google Scholar for, researches, review articles and reports, published over the past 15 years.

Our search was completed without language restrictions. Then we extracted data on study year, study design, and key outcome on diabetes. The selected studies were summarized and unreproducible studies were excluded. Selected data is shown in the Table 1.

**Inclusion criteria**

Inclusion criteria were ambulatory health care: elderly, adult.

**Exclusion criteria**

Irrelevant articles [not related to the aim of this review and articles that did not meet the inclusion criteria in this review.

**Data extraction and analysis**

Information relating to each of the systematic review question elements was extracted from the studies and collated in qualitative tables. Direct analysis of the studies of ambulatory health care in community.

**RESULTS:**

SAM data revealed that stroke patients had a mean strides per day standard deviation of 30351944 and demonstrated a broad range of daily activity profiles (400 – 6472 strides). SAM test-retest reliability was high across separate monitoring periods (r.96, P.001). Although Caltrac also revealed a broad range of daily activity calories (346217kcal/d; range, 83–1222kcal/d), reliability was poor (r.044, Pnot

significant) and Caltrac accounted for only 64% of the ambulatory activity quantified by the SAM [20]

The study population consisted of 149 patients, 54 (36%) of whom were men, with a mean age (2 SD) of 41 f 15 years. An etiological diagnosis was made in 74 (49.7%) patients using serological methods. Etiological agents included M pneumonia 34 (22.8%); C pneumonia 16 (10.7%); M pneumonia and C pneumonia 5 (3.4%); C burnetii 4 (2.7%); influenza A virus 4 (2.7%); and other agents 6% (7.4%). Three patients (2%) had a conventional bacterial etiology, and 72 patients (48.3%) had pneumonia of undetermined etiology. Patients with pneumonia of known (atypical) and undetermined etiology were similar in terms of age, gender, race, education, employment, and comorbidity. Despite a higher proportion of patients with pneumonia of known etiology reporting sweats, chills, and headache at presentation, the two groups were similar for symptom severity and bother. The patients with pneumonia of undetermined etiology were more likely to have multilobar pneumonia ( $P \sim 0.02$ ). Both patients with atypical pneumonia and those with pneumonia of undetermined etiology suffered severe deterioration of physical functioning with a marked but incomplete recovery at 30 days. Those with atypical pneumonia had higher physical functioning and general mental health scores at 30 days. [21]

Although a number of measures showed evidence of significant differences between fallers and nonfallers, the differences were most pronounced for measures related to the control of lateral stability. Lateral spontaneous-sway amplitude (blindfolded conditions) was found to be the single best predictor of future falling risk, particularly for the large group of falls that were precipitated by a biomechanical perturbation. This measure was able to predict future falling risk with moderate accuracy, even in those individuals with no recent history of falling. [22]

All 113 ICD codes obtained from the literature were submitted to the experts for their judgements (table 1). All experts were kept on through the three rounds before reaching consensus. Completion of the questionnaire reached the level established (85%), so no expert was excluded. Missing answers for particular ICD codes were occasionally observed (maximum missing answers for question A = 5 cases, and for question B = 9 cases of a total of 113 items). The Kappa test showed levels between 0.57 and 0.80 (good to excellent, according to Landis and Kock's scale<sup>33</sup>), indicating good agreement across professional contexts of the experts. [23]

**Table (1) Results from Sequencing Studies:**

| Author and year                        | Sample  | Ambulatory health care  | Key point  |
|--|---|---|--|
| Elaina H, et al. 2001. <sup>20</sup>   | 2 separate 48-hour recordings in 17 persons                         | utility of a novel microprocessor-linked Step Watch Activity Monitor (SAM) to quantify ambulatory activity  | Microprocessor-linked accelerometer monitoring, but not conventional accelerometers, are accurate and highly reliable for quantifying ambulatory activity levels in stroke patients                            |
| Thomas J. et al. 1996. <sup>21</sup>   | forty-nine adults with acute onset of one or more symptoms or signs | determine the etiology of community-acquired pneumonia in patients treated in an ambulatory setting,  | Nearly half the cases of ambulatory community-acquired pneumonia are due to "atypical" agents.   |
| Brian E. Et al. 2014. <sup>22</sup>    | 100 volunteers (aged 62-96),  | An ability to predict risk of future falling is needed in order to target high-risk individuals for preventive intervention   | The ability of a simple and safe force-plate measure of spontaneous postural sway to predict future falling risk suggests a possible clinical application as a preliminary screening tool for risk of falling. |
| JOSEFINA C, et al. 2016. <sup>23</sup> | 113 ICD diagnostic codes  | To examine the postulated relationship between Ambulatory Care Sensitive Conditions (ACSC) and Primary Health Care (PHC) in the US context for the European context | A core list of ACSC as markers of PHC effectiveness identifies health conditions amenable to specific aspects of PHC and minimizes the limitations attributable to variations in hospital admission policies   |

**DISCUSSION:**

The main finding of our study is that microprocessor-based accelerometer recordings using the SAM were accurate and showed high test-retest reliability for measuring total daily ambulatory activity in stroke patients. Further, we report that conventional belt-mounted mechanical accelerometer estimates of daily activity calories were not reliable in this population and accounted for only 64% of the variance in ambulatory activity that was measured by the microprocessor-linked accelerometer recordings. [20] This study showed that the 149 patients who were treated for pneumonia on an ambulatory basis in Halifax were young, had few comorbidities, had few investigations performed, had low morbidity (eg, 5.4% were subsequently hospitalized), and no mortality. Only 7 of the 149 (4.7%) patients had an etiology determined for their pneumonia by their physicians. We were unable to obtain blood or sputum for culture as part of our study since most of the outpatients were seen in their physicians' offices and had begun antibiotic therapy prior to enrollment in our study. We were able to define the etiology of pneumonia. [21]

The present results show strong evidence linking deficits in postural balance related to the control of m-l stability with increased risk of falling, particularly for the large group of falls (86% of all classifiable falls) that were preceded by some form of biomechanical perturbation. On average, fallers showed increased m-l center-of-pressure excursions in both spontaneous- and induced-sway tests, and modeling of their induced-sway data predicted slower responses to transient m-l perturbations. Although a

**CONCLUSION:**

The results of this studies show the ambulatory health care in community. On the basis of findings and results this review found utility of a novel microprocessor-linked Step Watch Activity Monitor (SAM) to quantify ambulatory activity, determine the etiology of community-acquired pneumonia in

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number of other studies have shown greater spontaneous sway in fallers [3,4,68,10,19-22,31], findings of heightened effects in the m-l direction have not, to our knowledge, been reported; in fact, only one of the above studies [8] has examined the m-l component of the response. Furthermore, none of the previous studies of falling has assessed corrective responses to m-l perturbations. The present findings suggest that ability to generate stabilizing postural responses to lateral perturbations, as well as control of lateral movement in general, may be important areas for preventive intervention. [22]

The criteria proposed by Solberg<sup>13</sup> and Weissman<sup>14</sup> proved very useful in this study to identify a core set of ACSC codes. All initial diagnostic codes obtained from the literature were considered conditions for which evidence exists that specific PHC modalities reduce hospitalization rates. However, for many codes, non-fulfilment of the criterion of the need for hospitalization was considered as a main confounding determinant by different authors.<sup>2,8-10</sup> In the case of comparing small areas dependent on different hospitals or for assessing PHC quality, the use of the core ACSC list is proposed. This core list reduces significantly the limitations that stem from hospital admission criteria due to patient clinical characteristics, variation in hospital medical practice and hospital admission policies. In contrast, the expanded ACSC list should be useful to evaluate global PHC performance or to analyse market responsibility for ACSC among PHC and Specialist Care. [23]

patients treated in an ambulatory setting, An ability to predict risk of future falling is needed in order to target high-risk individuals for preventive intervention, and To examine the postulated relationship between Ambulatory Care Sensitive Conditions (ACSC) and Primary Health Care (PHC) in different context, are most common ambulatory health care in community.

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