

# An integrative research review of preventive home visits among older people – is an individual health resource perspective a vision or a reality?

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*Scand J Caring Sci; 2009; 23; 558–568*

## An integrative research review of preventive home visits among older people – is an individual health resource perspective a vision or a reality?

This study has two aims: (i) to explore and evaluate the health-promoting effect of preventive home visit (PHV) by analysing the activities conducted during the PHV and the reported results, and (ii) to critically analyse if PHV is characterized by an individualized health resource perspective. The material was compiled through a systematic literature search in the databases Ebsco, CINAHL, Medline, Science Direct and CSA from the period 1984 to 2004. The result of the systematic database search was a total number of 49 scientific research articles, of which 18 are included in this study. The analysing method was a four-step integrating research review. The review describes the following content concerning (i) activities during home visits: screening, observation and evaluation, guidance, support, referral to care and other services, follow-up and individual aim; (ii) positive effects: reduced mortality, improved ability to function, improved life quality, improved sub-

jective health, fewer admittances for care, older people's experiences of home visits and increased knowledge on health and (iii) unclear/negative effects: admittance to care, no effect on mortality, unaffected ability to function, unaffected general health and uninfluenced life quality. PHVs had been implemented based on an individual perspective in a total of 13 studies out of 18. The focus on sickness was surprisingly clear, and in 10 studies out of 18 a health resource perspective was lacking. The effects of PHVs have been questioned. Despite this, current research results imply that this method has a positive affect on older people's health and well-being. This form of care must still be developed to include extensive screenings and interventions, as well as a health resource perspective where the starting point during every home visit is the older person's individual needs and wishes.

**Keywords:** health visiting, elder care, gerontology, systematic reviews, preventive home visit, integrative research, older, gerontological nursing, health resources.

*Submitted 19 October 2007, Accepted 22 March 2008*

## Introduction

The possibility of having a good ageing process is a central goal in the western welfare state. For most of us, good ageing means that we have an independent life, and that we can live in our own home as long as our health allows us to. This wish, and the increasing number of older people, has led to a focusing on health-promoting activities for older people in many countries. The preventive home visit

(PHV) is a method that has been tested in many countries during the past few years (1, 2). The key question of this article is whether these visits have a health promoting effect on older people living at home, and if PHVs are conducted from an individual health resource perspective. This aspect has not been evaluated or analysed in earlier studies.

Preventive home visit is a form of visiting activity, whereby an employee from social welfare or healthcare visits an older person in their home (3). The aims of PHV are to gain a complete picture of the older person's health and ability to cope, living conditions and possible needs for care or services, as well as to support the older person's health and ability to cope based on this total picture in order for her/him to be able to be independent and live in her/his home as long as possible (1, 2). The visitors are

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mostly nurses, district nurses, physicians or other health educated personnel; sometimes the personnel have had social training (2). During the home visits, the visitor usually makes a survey of the older person's ability to cope, their potential physical and psychological health problems, social network, as well as any possible needs (2–4). The visitor tries to find solutions to possible problems that have been revealed in the discussion, and provide information concerning the help and support activities that can be found in the municipality, as well as arranging care and services, if needed. Within preventive work, we try to discover and eliminate such factors in advance that could possibly have a negative influence on the health, life quality and living conditions of older people.

Preventive home visits include both health promotion and preventive actions and strategies, as well as taking the older person's actual health problems into consideration, and his/her inner health resources, such as physical and mental health resources, and external resources that are important for his/her total life context. Life context is defined as the actual context where the person lives, i.e. the societal, cultural and life situation (5). The concept 'health resources' consists of both external and internal resources. External resources are strengthening factors in the person's actual life context, such as trusting relationships, social networks, cultural values, living conditions and economic situation. Internal resources are a person's physical and mental strength/abilities despite diagnosis and sickness. Health is to be able to use well every power the person has (5). A person's purpose in life, and the spiritual and existential dimension are central internal resources. One important aim with PHV is therefore also to create a dialogue with the older person concerning their individual health resources and life quality, their own view of possible health problems, as well as wishes concerning their needs for care and services (4). During the visit there are good possibilities for health promoting and health preventing actions, i.e. concerning the person's own care, guidance, support, medication, physical exercise and eating habits. All this aims towards supporting the older person living at home and preventing institutional care by both screening the health problems as well as strengthening the older person's health resources (2). An important precondition is that the activities are shaped out of the older person's individual needs, i.e. the degree of individuality is crucial for the effect of PHV (2).

The experiences of PHV among older people have usually been positive (2, 4), but the effects have also been questioned, although this type of care has been reported in the literature since the 1980s and different models of PHV has been, and are still, developing. Most research has been made within medical science (geriatrics), and therefore a clear sickness and problem-oriented perspective appear in earlier studies. The systematic review has rapidly become a cornerstone of evidence-based practice, and it has the

possibility to synthesize the findings of primary studies and also to critically evaluate earlier studies. Therefore, the aim of this article is to explore and evaluate the health promoting effect of PHV and to critically evaluate earlier studies by using the integrative research review as a method.

### Questionable evidence surrounding PHVs to older people

Preventive home visit as an activity form has been very much discussed within scientific research, as the effects of PHV in many studies have been difficult to prove (2). In Odense, Denmark, already at the beginning of the 1970s, a longitudinal study was conducted among 70-year-olds and older, in which a total number of 4128 older citizens participated (6). The aim of that study was to prevent institutional care among older people through socio-medical interventions made by health carers. In the evaluation of the study, admission to an institution and mortality were used. Positive results were gained for women >80 years, whose need for institutional care was significantly smaller than the control group as was the need for social support. On the other hand, there were no significant differences concerning mortality. At the end of the 1970s, a study was conducted among 70-, 75- and 80-year olds in Copenhagen: 585 persons in the intervention group and 777 in the control group (7). Also in this study, the result variables were admission to hospital or institution and mortality. No significant differences were proved, and it was stated that a one-time action had no effect in this research group. At the beginning of the 1980s, Hendriksen et al. (8) made home visits to approximately 600 75-year-olds and older in the area around Copenhagen, and according to their study, mortality decreased as did the costs and the need for hospital and care.

In Scotland, the effects of PHV among women over 70-year old living alone (n = 120) were researched at the beginning of the 1980s (9). The aim was to discover the actual and possible health problems among these women, their life satisfaction and the clients' view of PHVs. Health problems decreased significantly in the intervention group, but not life satisfaction. A total of 95% of the women found home visits important and useful. A British study evaluated home visits to 75-year-old and older (n = 296) within primary care (10). A certain use could be seen concerning the experiences of getting old and loneliness, but no evidence was found concerning physical health problems, daily activities or life quality. The starting point of Pathy et al.'s (11) study was that PHVs had been carried out in England already during a period of 30 years, although their effects had been questioned. This study showed that PHVs to older people over 65 years of age and living alone could decrease mortality and have an improving effect on their health. Specially trained nurses

conducted home visits to a total number of 725 older citizens living in cities. The result measures were mortality, health-related life quality, experienced health and use of care. The experienced health and mortality decreased. The reason for this was considered to be that the actions were directed towards older persons with health problems.

## Aims and research questions

This study has two aims: (i) to explore and evaluate the health promoting effect of PHVs by analysing the activities conducted during the PHV and the reported results and (ii) to critically analyse whether the PHV is characterized by a health resource perspective. Also the degree of individuality, i.e. whether individual client aspects have been taken into consideration during the activities and PHV, will be critically analysed. In order to obtain an answer to the overall question, the following research questions were made for the chosen research:

- 1 Which activities are carried out by the nurse (health visitor) during PHVs for older people?
- 2 Which positive and unclear or negative effects can be seen in older people's health as a result of PHVs?
- 3 Are PHVs conducted from an individual health resource perspective, i.e. are the older person's individual needs and health resources taken into consideration within health-promoting activities during the home visits?

## Methods

In this study, the authors used the integrative research review (12–14) for synthesizing and critically analysing earlier studies of PHVs. Cooper's (14) guidelines have guided the reviewing process, which is described in four steps. *The first step* of the integrative research review was to identify and collect relevant research studies. The material for this study was compiled through a systematic literature search in the databases Ebsco, CINAHL, Medline, Science Direct and CSA from the period 1984 to 2004. The following keywords were used: older people, PHVs, house calls, home-dwelling, home-based support, health promotion, health assessment, older people living at home, older people well-being and combinations of these concepts. The result of the data search was a total number of 49 research studies. The following inclusion criteria were used: (i) the empirical study would contain an answer to two of the above mentioned three first research questions; (ii) the contents should clearly be about PHVs; (iii) the studies would be qualitative or quantitative studies; (iv) they had to be published during the period 1984–2004. After going through the material according to the inclusion criteria, a total number of 18 scientific articles could be included in the study (see Table 1).

The method for analysing the material in *the second step* of the integrative research review was in terms of the review

according to Kirkevold (12). This provides an efficient overview of all relevant research about the topic and means that each article is gone through carefully, and for each article a short resume is made. This resume can contain the major elements of the study including the problem statement, specific research questions or hypotheses, methods and major findings. In this study, the resume gives an overview of the design, inventors, participants and their age, activities, and the positive and unclear, negative effects of the selected studies. In *the third step*, the contents and effects of the activities were analysed more deeply with the two first research questions in focii (13). The method for this analysing process was deductive content analysis (15) based on certain chosen focuses. The aim was to be able to synthesize the material into descriptive units with the help of overall and complete categories, which are also described and exemplified through examples based on the empirical studies. This can be compared to Cooper's (14) view on integrative research, when past research is summarized by drawing overall conclusions from separate studies. In *the fourth step*, a critical review, according to Kirkevold's definition (12), was made by inductive content analysis of the degree of individuality and health resource perspective (cr. the third research question). The focus was on weaknesses and inconsistencies in the realization of PHV, or in other words, if the design/programme of the screenings/activities were planned and/or implemented from the individual needs of the older person and by taking into consideration their health resources. The following questions were asked to the text: did the visitor adapt the preventive activities/actions according to the older person's needs, or were the actions realized only according to the protocol stated beforehand? Did the visitor record only the problems, symptoms and shortcomings of the older person and/or were only negative results discussed in the study and not, for example, general well-being and the social network? During the steps of the integrative research review ethical aspects were taken into consideration by carefully analysing the studies and trying to interpret each one as carefully as possible.

## Results

*The result of the second step* of the reviewing process is presented in Table 1, which at the same time is an overview of the chosen articles. A remarkable result was that only one of the 18 chosen articles was qualitative in its design; most of the studies were randomized clinical trials. In Table 1, the main content concerning activities during PHVs, the positive and lacking/unclear/negative effects of the PHV are presented.

After carrying out deductive content analysis of the three chosen focii, *the results of the third step* could be synthesized to an overall descriptive picture consisting of three themes

**Table 1** Review of relevant research about preventive home visits during 1984–2004

Study	Design	Intervenor	Participants (n)/age (years)	Screenings and preventive activities	Positive effects	Unclear or negative effects
(26)	RCT <sup>a</sup>	Health visitors	1286/>70	Semi-structured questions about physical, mental and social characteristics, health education and prevention, referral to services.	In urban practice mortality of the older people was reduced and quality of life improved.	In rural practice no changes in anxiety or physical disability.
(22)	RCT	Research assistants	198/>65	QWB, ADL, utilization of health services, patient characteristics, patient satisfaction questionnaire, depression inventory, PGCM morale scale, health status visual analogue scale	Some impact on outcomes.	No significant differences between the groups.
(18)	Representative national sample <sup>a</sup>	Community nurses and auxiliaries <sup>b</sup>	215/>75	Records of sex, age, living situation, self care deficits, physical symptoms, mental problems, social and material problems, education or advice about diet, medicines, hygienic self-care, home safety, services, rights of the older people, encouraging activity, referral	Contribution to maintenance of good health of the older people by increasing the self-care agency of the older people	
(27)	RCT <sup>a</sup>	Nurses <sup>b</sup>	167/>65	Personalized health promotion intervention: substance use, exercise, nutrition, stress management, emotional functioning, social support, housing, finances, transportation, personal health plan, individual goals, developing personal health skills, use of health care	Personalized health promotion visits can prolong living at home for a portion of the frail older people population, increased social activity	
(24)	RCT <sup>a</sup>	Nurses	580/75–84	Physical examinations, self-rated health, functional state, well-being, loneliness, aspects of the mental state, mortality, medication, housing conditions, information and advice, social contacts	Some differences in institutional care, well-being and mental state, effective when preventive home visits are restricted to subjects with poor health	No differences in mortality, functional status, preventive home visits not beneficial for the general population of older people
(17)	RCT <sup>a</sup>	Physician's assistant, nurse <sup>b</sup>	254/>70	Screening for medical, functional and psychosocial problems, mortality, medication usage, immunization rates, nursing home and hospital utilization, recommendations, falls, quality of life, health behaviour inventory, inspection of environmental problems, safety hazards	Increased immunization rates, higher functional status, home visits can detect unrecognized and treatable problems and maintain health and function. Compliance with recommendations.	
(25)	RCT <sup>a</sup>	Health visitor <sup>b</sup>	204/mean 83	Hospital medical records, record kept on identified problems, health education, support, advice	Improved vaccination coverage	No effect on reducing days of unplanned hospital re-admission
(20)	RCT <sup>a</sup>	Nurses <sup>b</sup>	142/mean 79.1	Comprehensive assessment of physical, cognitive, emotional and social function, medication use, home safety, individual care plan		No differences in health services utilization, morbidity or functional status

Table 1 (Continued)

Study	Design	Intervenor	Participants (n)/age (years)	Screenings and preventive activities	Positive effects	Unclear or negative effects
(31)	RCT <sup>a</sup>	Nurses	99/>75	Risk factors: problems with drug prescription, depressive mood, cognitive/vision/hearing impairment, high blood pressure, gait and balance problem, orthostatic hypotension, environmental risk of fall, malnutrition, urinary incontinence, social support. Interventions: diagnosis and treatment, referral	Higher well-being and social support. Functional autonomy. Acceptable preventive programme.	No differences in health service utilization and costs
(29)	Stratified randomized trial <sup>a</sup>	Public health nurses <sup>b</sup>	791/>75	Multi-dimensional geriatric assessment: medical histories, physical examinations, haematocrit and glucose levels, hearing vision, nutritional status, oral health, medical use, home safety, social support, ease of access to the external environment, additional recommendations	Less dependent on ADL, reduced nursing home admissions, cost savings, older person's satisfaction high, higher balance scores	No effect on ADL for clients with high risk for functional impairment, nor on self-perceived health. No effect on cognitive/affective scores.
(33)	RCT	Nurses	316/77.2	Structured protocols: falls, fear of falling, mobility, physical health, drugs, activities of daily living, social functioning, cognitive functioning, psycho-social functioning, home safety. Followed by advice, referrals and other actions.	Less afraid of falling	No differences in falls and mobility outcomes between groups
(34)	RCT	Nurse	494/mean 80.2	Medication, cognitive functions, depression, balance or risk of falling orthostatic hypotension, environmental risks, social support nutrition, arterial hypertension, vision, hearing, incontinence, functional ability		No differences in preventing functional decline, well-being, social support, health service utilization
(23)	RCT	Nurse	100/>75	75 + HA: hearing, vision physical condition, medication, compliance, miscellaneous, cognition, mood, ADL, mobility, nutrition, social, housing; SF-36	Improvement in self-rated health, falls and geriatric depression score	No differences in the number of problems or mortality
(16)	Semi-structured qualitative interviews <sup>a</sup>	Nurses, other care workers <sup>b</sup>	3474/>75	Home-based health assessments	Direct observation of home safety, checking vaccination status, teeth, dentures, hearing, medication review	
(28)	RCT <sup>a</sup>	Community nurses	138/mean 77	Structured protocol: falls, fear of falling, mobility, physical health, medication, activities of daily living, social functioning, cognitive functioning, psychological functioning, home safety, additional recommendations	More benefit for frail older people who lived alone, more physical complaints, worse mental health status and perceived health	No effect on falls and mobility impairments
(21)	RCT <sup>a</sup>	Public health nurses	368/78.7	MDS-HC, CAPs with triggers: health promotion, falls, social function according to individual needs, training manual, individual advice	EQ-5D higher score for older people with poor health and for those who complied with advice	Intervention had no effect on quality of life/EQ-5D

**Table 1** (Continued)

Study	Design	Intervenor	Participants (n)/age (years)	Screenings and preventive activities	Positive effects	Unclear or negative effects
(19)	RCT	Nurses, other care workers	1031/>70	Checklist: hearing, vision, dental care, vaccinations, medications, hypertension, diabetes, smoking, body mass index, problems with sleeping, feet and urine, self-rated health, nutrition, physical function, mental state, social support, depression, home safety	Higher quality of life, difference in mental component.	No differences in hospital admission or death
(30)	RCT <sup>a</sup>	Key persons <sup>b</sup>	4060/75 and 80	Prevention of falls, mental problems, medication, incontinence, nutrition, functional ability, items about need for help in transferring, walking indoors, going outdoors, walking outdoors, climbing stairs	Positive effect on women's mobility, better functional ability among women	No changes in men's mobility

<sup>a</sup>Preventive activities from an individual perspective.

<sup>b</sup>Preventive activities from a health resource perspective.

(Research questions 1 and 2) as well as categories (see Fig. 1). Each theme with included categories will be described in more detail. The categories are written in italics.

*Theme 1 – Activities and preventive actions during PHVs*

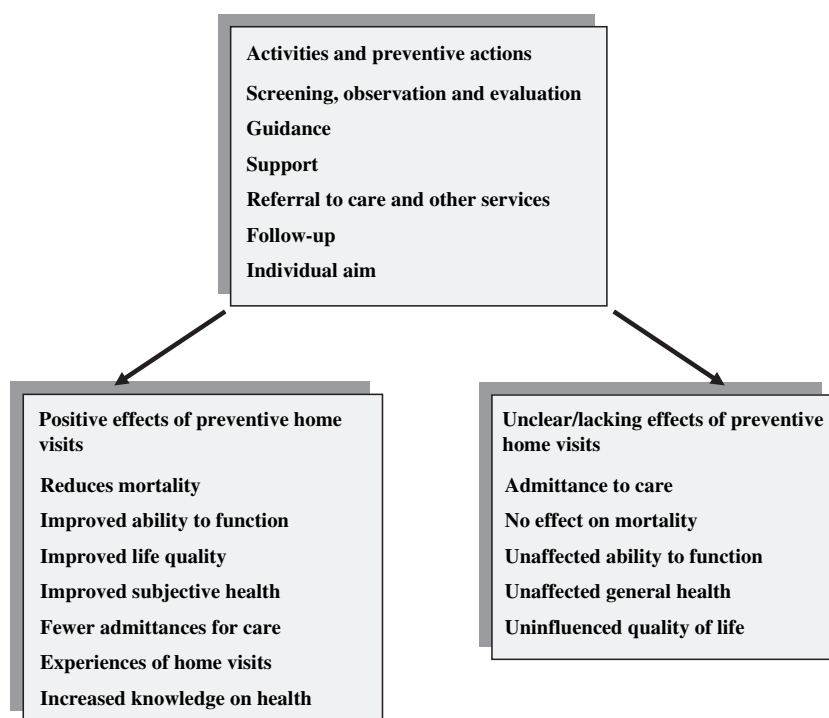
The contents of the résumé were analysed and the result of the deductive content analysis consists of seven categories: screening, observation and evaluation, guidance, support, referral to care and other services, follow-up and individual aim.

The categories *screening, observation and evaluation* were found in all research. The visitors observed/surveyed the older people in terms of: (i) medical health problems, such as physical and psychological health/ill-health (16–25); (ii) ability to function related to the activity daily living (ADL)-ability (16–18, 21–24, 26–30); (iii) social problems in the form of social support and social network (18, 20, 21, 23–27, 29); (iv) subjectively experienced health and well-being (18, 21–24, 27, 29); (v) material problems, such as living conditions, modification for use by a disabled person and (vi) view of home visits as a form of care and service (16–18, 20, 24, 25, 27, 28). The observations and screening resulted in an evaluation of the state of health, life quality and/or need for care and services. Other factors that were investigated concerned how the older persons experienced the visit, as well as their satisfaction with the home visits (29).

The other category that appeared was *guidance*. Guidance was given to the older people based on their problems and needs. Specific advice and recommendations were given to decrease and treat the observed problems, as well as to prevent new problems (17, 18). A normal form of guidance was information concerning, e.g. food and medicines (25, 29). Information concerning the risk of falling could contain information, but also guidance on how this could be prevented at home, and, for example, how the risk could be minimized by training the person's balance (23).

Psychosocial support, telephone calls and contact details of the visitor were summarized in the third category, *support*. In some research, follow-up visits were made and occasionally the visitor could provide older people with psychosocial support through revisits (27, 29) and/or telephone calls after the first visit (20, 24, 29). In one study, the visitors left their phone number to the older persons so they could call if they had a problem or if they needed more information on something (25). The home visit itself was also seen as a supportive action.

The sixth category was *recommendation for further treatment and other service*. In some of the research, the older people were referred to care or other services in order to obtain help with any discovered problems (17, 18, 21, 22, 26, 27, 29). Municipal services and other activities were integrated into the healthcare plan of older people, according to some studies (20, 31).



**Figure 1** Visitors' activities and their effects on older people's health during preventive home visits.

Systematic *follow-up* was the fifth category. In most of the studies, a follow-up of the older people's health and life situation was made in different ways, e.g. through letters, visits or phone calls. During a follow-up, the visitors could, for example, check if the older person had followed the care recommendations, and also take further actions based on their needs with a health promoting purpose (20, 25).

Only in a few studies was an *individual aim* clearly seen. Personal health plans were developed based on the older people's specific needs. In these cases, the home visits were concentrated on setting individual goals and developing personal health skills among older people (20, 27).

### Theme 2 – Positive effects of PHVs

The deductive content analyses resulted in the following categories: reduced mortality, improved ability to function, improved life quality, improved subjective health, fewer admittances for care, older people's experiences of home visits and increased knowledge of health.

The category *reduced mortality* came up, as a tendency was seen in some studies that mortality was reduced because of home visits (20, 26, 27). For example, in the study of Hall et al. (27) that the treatment subjects were more likely to be alive and living at home at every time point during the 3 years.

The other category was *improved ability to function*. Positive effects on ADL (17, 26, 30, 31), self-experienced health (23, 24, 31), balance (29) and walking (30), etc. could be proved. Favourable effects on psycho-social ability were also discovered (19). The older people gained a

greater awareness of the risk of falling and problems with mobility (18, 23, 28). It also appeared that older citizens who had poor health in the beginning of the investigations could, for example, do their housework better after the home visits (18, 23, 28).

In many studies, the experience of *improved life quality* appeared as a positive effect of PHVs (19, 21, 22). *Improved subjective health* was reported; for example older people with weak self-experienced health showed good compliance with health recommendations (21). Older citizens suffering from loneliness, irritation or depression, said that the home visits had a positive effect (17, 24). The fifth category that appeared was *less admittance to care*. PHVs could, in some studies, be associated with a decrease in long-term care and admittance to care (24, 29).

Many older people had *positive experiences* of PHV. Some research indicates that they liked the home visits and had the opinion that the visits had been of help (16). The opportunities to discuss problems, the possibility to talk to the visitor, the attention and support the older people received from the visitor were factors that were appreciated (28, 29, 31). The older people liked the general advice given by the visitor and they were very thankful for the changes or improvements that appeared due to the home visits (28).

The seventh category under the theme positive effects was *increased knowledge of health*. Because of the home visits, older people knew more about their medicines, felt more confident to discuss their problems with their doctor, and had a higher level of physical activity. The home visits resulted, for example, in the fact that many of the older

persons stopped smoking and started to take care of their oral health (16). Influenza- and pneumonia vaccinations increased among older people who had received PHVs (16, 17).

### Theme 3 – Unclear/lacking effects of PHVs

The deductive content analysis of the third theme area resulted in the following categories: admittance to care, no affect on mortality, unaffected ability to function, unaffected general health and uninfluenced life quality.

The category *admittance to care* appeared, because certain research has indicated that PHVs did not have any decreasing effect on admittances to hospitals and other institutions (19, 20, 31, 32).

The category *without affect on mortality* was also a result of unwanted PHVs. It was stated that more older citizens died in the groups that had been visited, or then that there was no difference between older citizens who had PHVs and those who had not (19, 20, 23, 24).

The third category was *unaffected ability to function*. It became clear that PHVs did not have any affect on falling and decreased mobility among older people in the risk zone (28, 33). Certain research indicates that the home visits did not influence ADL, ability to function and functional independence (24–26, 29, 34).

The fourth category was *unaffected general health*. Some research has indicated that PHVs did not affect older people's self-experienced health or well-being (26, 29). The last negative category was *uninfluenced life quality* (21). The quality of life was measured by the EQ-5D score and no statistical differences were found between the mean values of the intervention group (0.684) and of the control group (0.680) (21).

### Individual health resource perspective—vision or reality?

Based on *the fourth step*, when inductive content analysis was made concerning the level of individuality and health resource perspective in the chosen articles, two thirds (13/18 articles, see superscript letter 'a' in Table 1) of all the chosen articles show some evidence that individual efforts were made with older people and the aim was to support them based on their individual needs. Personal health plans were developed based on the older people's specific needs. In these cases, the home visits were concentrated on setting individual goals and developing personal health skills (20, 27). According to the study of Hall et al. (27), personalized PHV can prolong living at home for a portion of the frail older people population. Revisits or follow-up calls were understood as a sign of individuality. In some studies, the visitor revisited the older persons if there was a need for psychosocial support (27, 29). Evidence that the older person was in need of help and care and then referred to care or

other services was also understood as a sign of individuality.

The sickness focus was surprisingly clear, and in more than half of all the studies (10/18), a health resource perspective was missing, i.e. the studies focused on health problems, illnesses, failures in strength and not on health resources. Newbury et al.'s study is a descriptive example of problem focusing (23). Positive results were found concerning depression; however, this result is not discussed in more detail, and is presented only briefly. This also concerns many other studies (22, 26). Robichaud et al.'s (31) programme showed a positive impact on general well-being, as well as on functional autonomy and perceived social support. But the importance of general well-being is not discussed at all, and this is the same trend in other studies (19, 21). Considering that PHVs should also have a health resource perspective, this can be seen as an important weakness in the actual research and as an inconsistency between the purpose of the PHV and the way of working.

## Discussion

Different models of PHV have been tested during the last 30 years and most of them have been randomized controlled trials. This study may be the first 'meta-analysis' of PHV, which has not used traditional statistical data analysis, as for example the meta-analysis of van Haastregt et al. (35) and Elkan et al. (36). Systematic reviews are primarily concerned with effectiveness. The aim of this article was not primarily to evaluate quantitatively the reliability, validity or results of earlier studies, but to include studies with different methodologies. One effect of this decision could be that the reader may find the presentation of the results more inexact than those from statistical meta-analysis. Unfortunately, only two out of 18 were not randomized controlled trials. This imbalance was a weakness of the study, but on the other hand these studies gave valuable information in terms of the total picture of PHVs. The integrative research method allows an incorporation of studies with diverse methodologies, and has therefore the potential to play an important role in evidence-practice (38). By analysing the same phenomenon from varied perspectives new insights, knowledge and evidence-based practice initiatives can be developed (12, 38). The integrative research review also captures the context, processes and subjective elements of the phenomenon, and in synthesizing the results in a new, creative way, the method has an expanding function (37). The context, processes and subjective elements were taken into account in the inductive content analysis. The caring process and the visitors' way of working seemed, in too many studies, to be strictly following the protocol, without noticing the individual needs. Mental health resources and patient education are not emphasized as they should be.



According to Byles et al. (16), a common problem of PHV is too strong a focus on physical examination, and also that older people in many cases would benefit more from patient education and counselling for a healthy lifestyle. The presented results of the individualized health perspective are only primarily, and should be treated with caution because of the inexact descriptions of the visits in the material. Despite this, the focusing on the problems and illnesses of the past 20 years is a fact and reality that should be discussed. This is not a sustainable perspective, and hopefully the focus is moving from the traditional medically-oriented perspective to a more health resource one.

The trustworthiness of the integrative research review is linked to a transparent and rigorous description of the process (38). This was performed by describing the process in fourth steps. The results of this study were, to some extent, difficult to present exactly; this is as a result of the fact that the programmes for PHVs and included activities were insufficiently presented in many studies, as fact which van Haastregt et al. (35) also pointed out. Based on the presented results, it can be stated that there is evidence that PHVs do, in fact, have some health promoting effects, but also that a number of studies show unclear, and even negative, effects. Corresponding results have also been discovered in earlier meta-analyses (3, 35, 36). van Haastregt et al. (35) found no consistent evidence that PHVs had a significant effect on any outcome, i.e. physical function, psychosocial function, falls, admission to institutions and mortality. Elkan et al. (36) stated in their meta-analysis that PHVs can reduce mortality and admission to long-term institutional care among older people in general and frail older people who are at risk of adverse outcomes, but not any significant reduction in admissions to hospital. It is interesting that, despite this positive result, they found no improvement in functional status, a fact commented on by Egger (39). He pointed out that the interventions are usually described very inexactly, as are the outcome measures and quality assessments. His conclusion, despite these weaknesses, is that trials and meta-analyses have shown that PHVs can work.

Toljamo et al. (3) divided the activities of PHVs into primary variables (ability to function, admittance to long-term or permanent institutional care, mortality and costs) and secondary result variables (well-being, experienced health, use of social- and healthcare services, falling, life quality and life satisfaction, loneliness and subjective opinion). In this study, PHVs supported the ability to take the social initiative (IADL assessment) in such cases where the older person's ability to function had been assessed as good in the beginning. In this study, the social dimension and social network were emphasized in very few cases (27, 31). The importance of mental health and general well-being was also very seldom emphasized; instead, the focus was placed on classical psychological diagnoses like depression or lack of depression (21, 22, 31, 34), anxiety

(26) or an evaluation of psychological or mental ability (28). The problem with loneliness among older people has been emphasized, together with a psychological feeling of not belonging, which does not necessarily have a medical form with a normal diagnosis. This can, however, be part of the reason why older persons seek care or become apathetic, and later become institutionalized. The importance of a positive life orientation is considered to be a possible factor for long life (40). The older person's inner strength is supposed to be a central health resource and important for good ageing, where the meaning of life seems central (41). Their inner strength does not necessarily decrease, although the physical ability to function and their health weaken (41). An interesting question then is if and how people's inner strength as a dimension of a mental health resource can be improved and maintained despite illnesses and ageing.

Newbury et al. (23) mention interaction with the older people as a possible factor influencing the effect of home visits. This factor, however, has not been investigated more deeply in earlier research concerning PHVs. A well-functioning dialogue or a trusting conversation could be mentioned as an intervention in itself. On the other hand, the importance of compliance with recommendations is mentioned (17). A trusting, caring relationship makes a two-way conversation possible; a dialogue is supposed to influence the degree of compliance with recommendations, but most of all it is necessary for a home visitor to gain an understanding of the older person's needs and suffering, as well as his/her health resources. A caring conversation (42), when an older person experiences that someone really has time to listen (28), is seen as a communication through which suffering can be alleviated. An important aim for all PHVs is, therefore, to be able to create a dialogue with the older people to improve understanding of their individual health resources and life quality, their views on possible health problems and caring needs, as well as their deeper desires and wishes (4, 5).

The key question is, which components of the intervention/PHV are effective? (39). All categories of the content of PHVs are important, but more emphasis and time should be put on the mental health aspects, supporting caring conversations and discussions about how the older person's inner health resources could be strengthened.

Are there any other reasons for circumstances that would stop PHVs from having the desired effect? The research design of the study has been criticized in earlier meta-analyses and has been given as a decisive factor in the results (35). Criticism has also been made of the incomplete reporting of the programme contents, interventions and the compliance of the clients (35). The programme length, for example the number of follow-up visits, is given as a possible factor (19, 21). The target group is also seen as an important factor (34). According to Stuck et al. (29), this method provides a better result if it is

directed towards older people possessing better basic health. Other researchers have the opinion that older people who are in poorer health benefit more from PHVs (21). Another fact is that older people today, in many cases, are 'too healthy' (24). However, the method seems to have a better impact if it is directed towards those initially having poor health and 'frail' older people (11, 27). The effect of who carries out the home visits is also discussed (24, 26), which might be a possible reason for different results. It is also important that those making the home visits have nursing training (17). Vass et al. (30) emphasize the importance of evaluation of the training of health visitors.

## Conclusions

The implications for education and practice are, that preventive activities and PHVs should be further developed to correspond with the older person's individual needs and wishes, and a screening of risk factors could be completed with an assessment of the older person's individual health resources, i.e. both inner health resources such as the psychological and existential dimensions, and external resources, such as the social network and the actual context of life of the older person. A clearer documentation of interventions and activities during PHVs would facilitate further evaluations and research reviews of PHVs.

## Acknowledgements

The funding was provided to this study by the State Provincial Office of Western Finland, EU-project (ERDF) and by Svenska yrkeshögskolan University of Applied Sciences, Vaasa Finland.

## Author contributions

Annika Lindvall and Jenny Nilsson made the data collection and started the analysing process. Lisbeth Fagerström was responsible for the design, data analysis and result presentation, i.e. has written the manuscript.

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