Author’s response to reviews

Title: Trained volunteers to support chronically ill, multimorbid elderly between hospital and domesticity - A systematic review of one-on-one-intervention types, effects, and underlying training concepts

Authors:

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Version: 1 Date: 21 Jan 2019

Author’s response to reviews:

Dear Mrs. Roberton, dear Mrs. Aronin, dear Mrs. Nolasco,

please find enclosed our revised manuscript “Trained volunteers to support chronically ill, multimorbid elderly between hospital and domesticity...” (BGTC-D-18-00424).

Below you find our point-by-point response to the comments of the reviewers. All changes to the manuscript are indicated in the text by using track changes.

In case you have any further questions, please do not hesitate to contact me again.

Yours sincerely,

Anne Göhner

Editorial Comments

Technical Comments:

** Abstract structure: The abstract must only include the following separate sections:

- Background: the context and purpose of the study
- Methods: how the study was performed and statistical tests used
- Results: the main findings
- Conclusions: brief summary and potential implications

Please revise your abstract structure to conform to the journal's submission guidelines.

Response: Abstract revised, section “Objectives” deleted (contents moved to “Background”).

Comment: Ensure all section headings are as outlined in the submission guidelines, including the abstract.

Response: Section headings revised as outlined in the submission guidelines. List of abbreviations added.

Comment: In accordance with BioMed Central editorial policies (http://www.biomedcentral.com/submissions/editorial-policies#standards+of+reporting), could you please ensure your manuscript reporting adheres to PRISMA guidelines (http://www.prisma-statement.org/) for reporting Systematic Reviews and Meta-Analyses. This is so your methodology can be fully evaluated and utilised. Can you please include a completed PRISMA checklist as an additional file when submitting your revised manuscript.

Response: Abstract revised (PRISMA-details added; to comply the limit, some cuts have been made (see background, methods and conclusions)). Manuscript revised, details added. PRISMA checklist included as “Additional file 1”

Grace Warner (Reviewer 1):

Comment: P2, Line 3- The phrase…volunteering has hardly established as a pillar… sounds stilted. It might be better phrased as…volunteering has barely been established as a pillar…

Response: Revised as proposed

Comment: Abstract, P2

Line 3- The phrase…volunteering has hardly established as a pillar… sounds stilted. It might be better phrased as…volunteering has barely been established as a pillar…

Response: Revised as proposed

Comment: Background, P3

Line 53- same comment as for abstract

Response: Revised as proposed
Comment: P4, Lines 12-24-Paragraph seems disjointed, the sentences do not flow to create a cohesive thought.

Response: Entire paragraph restructured information and references added.

Comment: P4, In addition, there should be a paragraph on the need for volunteers (or domesticity) in situations where older adults transition from hospital to home as this is one of the criteria used for the interventions.

Response: Inserted a paragraph with information about:

- “need for a better transition of care between hospital and home in elderly patients,
- Tasks that volunteers have already undertaken and
- efforts to develop care in the context of social and demographic developments.

(see “Background”)

Comment: Methods, P 5, Line 20- Explain what an institutional search is, what type of search is this?

Response: Explanation added (see Methods): “Assuming that the data in the field is still unsatisfactory [14], the database search was supplemented by a search focused on institutions that are active in the field, e.g. offering voluntary engagement. The search was conducted on eight important players from research and practice in Germany: … . We searched their online presence for further concepts, not published otherwise. We searched nationally for two reasons: Due to the limited data available in the field, a supplementary search on institutions seemed to make sense, but at the same time it was necessary to examine whether the effort of an institutional search generates any further results. In addition, we did not have the expertise to find such institutions internationally.”

(see Discussion) “The supplementary institutional search has proven itself, additional results have been generated. It would be worthwhile repeating the institutional search with an international working group.”

Comment: P5, Lines 47-52- This information should be moved up to address the issue identified in line 20.

Response: Moved up as proposed
Participants receiving care from volunteers had a mean age...

Response: Added as proposed

Explain what a formalized voluntary service is for those outside of Germany.

Response: Explanation added: “statutory voluntary services with mandatory working hours and remuneration”

These additional categories are confusing as they are not referred to in the rest of the review. I would explain them in paragraph form as categories that were initially coded, but not presented in the rest of the review as they were not after a hospital stay.

Response: Renamed to “Categories that were initially coded, but are not presented in the review as they are not after a hospital stay”

Response: Summary added: “Study characteristics and populations are summarized in Table 1, for specific tasks of the volunteers and intervention details see Table 2, for results see Table 3 and Table 4, for summary of risk of bias see Table 5.”

Comment: Consider revising to ensure that the details in the text are the highlights of what is in the tables, some details in the text just repeat what is in the tables.

Response: All three types of support checked for repetitions and deleted the following information from the text: Country, Setting, Length of intervention period, Detailed information on the Results (Difference, Cohen’s d and Significance)

Comment: Line 1- add words to the sentence. ...on volunteer training from the authors of these three studies…

Response: Added as proposed

Comment: Rewrite so you create a list of what you did to gather more information on volunteer training. For example, ...To obtain information on volunteer training we 1) obtained checklist...2) Analyzed published....
Response: Revised:

“To obtain information on volunteer training we:

1. obtained checklist information on volunteer training from the authors of these three studies, two concerning psychosocial-coordinative support [32–34, 36] and one concerning physical-cognitive activation [37–40, 51].

2. analyzed the published training information from the remaining five studies [41–45].

3. identified through institutional search one further curriculum that reports on 32 training concepts; this falls under psychosocial-coordinative support and is called “PEQ” [14, 52, 53].”

Comment: P10, Line 1-12 Then make sure the total adds up.

Response: Sources checked: The references are correct; due to the publication practice of the original authors, there are usually several relevant publications given. For “PEQ”, the summarizing curriculum, e.g. 3 sources. Following explanation inserted (see Results):

“Due to the publication practice of the original authors, there is no main publication for some studies, but several sub-publications. To fully reflect the different publications, all researched references are listed in this review. An overview of all cited publications is given in Tables 1-7. “

Comment: P10, Line 30-In the Philippi study who do they include?

Response: Inclusion criteria added: “Philippi et al. [32–34] included elderly, who were not yet in need of care but who needed social support due to insufficient support from the immediate social environment, …”. Information also specified in Table 1.

Comment: P11, Line 29- The use of the term undercut is not familiar to me, are the authors referring to a loss of power due to a reduced sample size?

Response: Sentence revised as follows: “White et al. lost power by falling below the calculated sample size by about 3.1% [110], while Philippi et al. fell below by about 22.3%, mainly due to the small intervention group (n=47).”

Comment: P12, Lines 12-34- Does all this information need to be in the text? Some of the details seem to repeat what is in the tables.

Response: All three types of support checked for repetitions and deleted the following information from the text: Country, Setting length of intervention period
Comment: P13, Line 23- should it be or congestive heart failure instead of and?

Response: “and” replaced by “or”

Comment: P16, Line 49-Should the word be In conjunction with, instead of in cooperation with?

Response: “in cooperation” replaced by “in conjunction”

Comment: P17, Line 5-current instead of currently

Response: replaced

Comment: P17, Line 14-Why are smaller group sizes needed?

Response: Revised as follows:

"While psychosocial-coordinative support and assistance with medication intake had smaller group sizes (10-15 participants), physical-cognitive activation had bigger groups (up to 25 participants). This could be due to that focusing on psychosocial conversation techniques or complex medications required closer accompaniment than training standardized physical exercises."

Comment: P17, Line 19-Is it that the groups are of longer duration? Why do they have to be of longer duration?

Response: The paragraph refers to the total duration of the trainings. Revised as follows: “Second, the total duration of trainings on psychosocial-coordinative support and assistance with medication intake was of longer duration (range: 16-30 hours), than the total duration of trainings on physical-cognitive activation (range: 12-16 hours). This was caused by more extensive training contents to “Sensitization of target group” and “tasks (theory/practice)”.”

Comment: P17, Line 29-The comment on German-speaking concepts… seems country specific instead of study specific. Is this in reference to the German studies?

Response: The comment refers to the German-speaking studies from Philippi et al. and Haider et al. and the curriculum “PEQ”. The studies represent a general trend of adult education in Germany (this was subsumed, for example, by the cited Dinkelaker et al. 2015).

Revised as follows:
“Looking at theoretical influences within the studies, one country-specific trend becomes visible: The German-speaking training concepts of Philippi et al. [8–11], Haider et al. [13–16] and the curriculum “PEQ” [21] were based on the approach of constructivist learning. Based on the available information on the other studies, no country-specific trends on the theoretical background of their trainings could be identified.”

Comment: P17, The training information is interesting, but it overwhelms the information on the studies. There is no direct relationship between the training and the study interventions/outcomes. Connect them to provide relevance and insights from the training on the interventions/outcomes.

Response: Connecting explanation added as follows: “This review now provides a systematic overview of training, intervention and their effects. The limited number of studies and, despite checklist survey, incomplete training backgrounds do not allow direct conclusions to be drawn between training and intervention outcome. But based on our findings, we can draw some conclusions on volunteer training programs: …”

Comment: Table 1, Line 39-For the Philippi study under indication the phrase "Need for Support (screening)" is vague. Make this more specific, did they include by age?

Response: Inclusion Criterion "Age" added for all studies (Table 1). For Philippi et al. specified as follows: "65+, need for social support (self-developed screening with cut-off value)"

Larkin Lamarche (Reviewer 2):

Comment: Background, A definition of 'volunteer' is required - there are many definitions of volunteers in the literature, and not all articles will use the term 'volunteer' (i.e., community worker, peer, peer worker, peer system navigator, peer support, coach, community volunteer, etc).

Response: Definition added (as inclusion criteria, see Methods):

“Following the German Voluntary Survey [27], “volunteer” was defined as follows: “The commitment is 1. voluntary, 2. free of charge (maximum reimbursement of expenses or overhead lump sum) 3. publicly and 4. jointly exercised with others.””

As part of the search strategy (see additional file 2), we also used other terms for 'volunteer', so we found different types of engagements. We included only those that met our definition, regardless of how they were named.

Comment: Background, Was your definition considered in the inclusion/exclusion of articles?
Response: Yes, the definition was considered in the inclusion/exclusion of articles. Explanation added: “We included studies if they met our definition of “volunteer” and the following criteria”

Comment: Background, I noticed 'focus on family caregivers' as an exclusion criteria in figure 1. Oftentimes, caregivers are considered informal volunteers as so having a definition of volunteer would help clarify the boundaries for readers.

Response: "Focus on family caregivers" means interventions with volunteers who target relatives (for example, emotional support for relatives by volunteers). Of course, interventions were included in which relatives engage as volunteers. Renamed to: “interventional focus on family caregivers”; Definition added.

Comment: Inclusion criteria, I see inclusion criteria and some exclusion criteria for some categories of PICOS. Are there any other exclusion criteria that should be articulated in each section? One may be study designs which were excluded.

Response: Excluded study designs added: “We excluded Studies with missing pre-survey (only post survey), reports without study results, studies without patient-related data and reviews without inclusion-appropriate studies.” Population criteria clarified as follows: “Participants receiving care from volunteers with a mean age at baseline…” Intervention criteria clarified as follows: “Studies were included if they evaluated a transition-of-care-one-on-one-at-home-support, offered by volunteers who participated in training. Studies were excluded if they used ‘expert patients’ as volunteers, if the volunteers were only deployed to screen study participants, and if the intervention was attached to a formalized voluntary service (contractually fixed commitment period with a high number of working hours, e.g., the “Voluntary Social Year” in Germany with usually 39 working hours per week) or an exchange platform or if the intervention addressed palliative patients”. Additionally, we specified in the title and the text of our manuscript the intervention type as "one-on-one". All further inclusion and exclusion criteria checked again: All exclusion criteria that are not logically implied by the inclusion criteria (e.g. inclusion criteria: trained volunteers, exclusion criteria: no training for volunteers) are given.

Comment: I see in Figure 1 'inappropriate study design' - what does that mean?

Response: The exclusion reasons in detail: Only Post-survey (pre-survey is missing), n=9; Project report without study results, n=2; Study without patient-related data (e.g. only survey of project staff), n=3; Reviews without inclusion-appropriate studies, n=1; Inserted under “inclusion criteria” and “Figure 1“

Comment: Also, the word 'inappropriate' should be removed as it implies to the reader 'wrong'. Excluded because of 'study design' is sufficient in the figure.

Response: Removed.
Comment: Results, 1. Why were interventions attached to a formalized voluntary service excluded? (p.6) This may present bias in the findings. Volunteers from these organizations may make-up a fair amount of the volunteer force in the healthcare system, and their training concepts may be more publicly available.

Response: Voluntary services were excluded in which volunteers have to contractually commit to a fixed commitment period with a high number of working hours (e.g., the "Voluntary Social Year" in Germany: young adults work 39 hours per week). The reason for exclusion is, that these services appeal to a different, specific type of volunteer (available time, age, ...) and a broader understanding of volunteerism. Following explanation inserted: “…and if the intervention was attached to a formalized voluntary service (contractually fixed commitment period with a high number of working hours, e.g., the “Voluntary Social Year” in Germany with usually 39 working hours per week)”

Comment: 2. Why was it decided to use pre-existing categories of volunteer tasks to categorize the articles, especially since it appears that volunteers often performed multiple tasks within studies. I do not disagree that the tasks used (emotional, psychosocial, physical, cognitive, coordinative support) make sense, but more justification for using these categories is required.

Response: Explanation added as follows: “In the categorization process it became clear that the data is too small to form well-founded categories. Therefore, we used categories derived from a scoping review, that summarized 77 non-pharmacological treatments of dementia in geriatric mental health institutions [35]. As some types of support were not yet listed, we inductively identified additional types of volunteer support: coordinative, domestic and medication-intake support.”

Comment: Further, providing parameters around these categories would be helpful (i.e., what is meant by cognitive support?).

Response: Definitions and examples added for each type of support.

Comment: Further, the category of psychosocial-coordinative support (p.9) includes emotional support?

Response: Yes. Psychosocial support focuses on the psyche and social well-being. According e.g. to Kurz et al. this also includes the strengthening of emotional wellbeing [1].

Comment: Also, the description of Philippi et al (p.10) sounds like tasks of coordinative (i.e., '"...e.g. accompanying patients to doctor's visit...search for professional support'). Clarity around the grouping is required.
Response: Definitions and examples added for each type of support. Yes, Philippi et al. combine psychosocial and coordinative support. Therefore, Philippi remains assigned to "psychosocial-coordinative support".

Comment: 3. Were adverse events reported in the studies (either events involving the volunteer or the client)? This would be an important factor to consider in thinking about volunteers in healthcare. As a reader, I would be curious to know this side of the story (even if there were none reported).

Response: A section on adverse events has been inserted for each type of intervention (see "Results").

Comment: Discussion, 1. The conclusions should be discussed in light of some bias brought into the search strategy. Mainly, excluding articles involving formalized voluntary service as well as including more detailed search of only German-based institutions and not worldwide institutions (even though reasoning was provided, p. 5). It is likely that formalized volunteer services have completed program evaluations, or have done quality improvement or PDSA cycles to develop effective programs, but their end goal is not publishing these findings. These limitations should be highlighted and discussed in detail.

Response: Limitations added as follows (see “Discussion”): “It may have influenced the results that we excluded formalized volunteer services from our research. It is likely that larger providers of formalized volunteer services evaluate their training programs, even if they do not publish them. However, it could not be assumed that pre-post evaluations without a study-based funding were widespread in the nonprofit-sector and the formalized volunteer services that we had excluded addressed volunteers who were willing to commit to a fixed commitment period with a high number of working hours. Including this type of volunteers and relating training programs could have biased the conclusions as well. It could have influenced the results that we focused the institutional search on Germany. However, none of the cited studies was found by the institutional search - an international search would probably not have led to major changes in the main results. However, it should be noted that the theoretical trend "constructivistic learning" is also based on the PEQ curriculum, which was found through the institutional search. Therefore, an international institutional search could have made further theoretical training-trends visible.”. “Conclusions” revised as follows: “The main implication of the review findings is that psychosocial-coordinative support, physical-cognitive activation, and assistance with medication intake may be effective as volunteer-based interventions in the one-on-one-support of multimorbid, chronically ill elderly at the interface between hospital and domesticity (offered by a non-formalized volunteer service).”

Comment: Table 2, Could the dashes be replaced with 'Not reported'

Response: Dashes replaced by “not reported”
Comment: Table 2. What was the control group for Etkin et al. (2006), Stolee et al. (2012), Connelly (2008)? or was it 'not applicable'? This could be clearer in the table.

Response: These are pre-post studies. To make that clearer: “No control group” added.

Comment: Table 3, Rows where information is not reported is unhelpful (i.e., Depression, Physical functioning under Psychosocial-coodinative support). Consider removing throughout. The same comment applies to Table 4.

Response: Removed.

Comment: Minor suggestions, 1. I find the word 'actors' used throughout awkward. Is there a different word that can be used? (community leaders, community organizations, organizations...?)

Response: Replaced by “nonprofit or community-based organizations”

Comment: Minor Suggestions, 2. p. 4 'Germany between increased from 16.7% to 31.4%...' should be 'Germany between 2022 and 2012 increased from, 16.7% to 31.4%...'

Response: Revised as proposed

Comment: Minor Suggestions, 3. In places throughout, the tense should be past tense, such as the objectives statements.

Response: Reviewed the entire manuscript and changed into Past-Tense (according to the reading flow).

Elizabeth Orsega-Smith (Reviewer 3):

Comment: However, you need to improve the background of this paper. I would suggest something on the training for the volunteers and the tasks that they may do as part of your background.

Response: Inserted a paragraph (see “Background”) with information about:

- “need for a better transition of care between hospital and home in elderly patients,
- Tasks that volunteers have already undertaken,
- efforts to develop care in the context of social and demographic developments.

- Training of volunteers in care

Comment: On page 5 line 126 I am confused as to what you mean by actors. Can you explain further or use another term?

Response: Replaced by “nonprofit or community-based organizations”

Comment: On page 9, can you provide some examples of psychosocial-coordinative support? Similarly, I think you need to define physical-cognitive support and provide examples. There is also the need for examples for psychosocial -domestic support and physical-cognitive activation plus social participation support.

Response: Definitions and examples added for each type of support.

Comment: On page 16, what do you mean by review was conducted ..."study"Local, collaborative...Effectiveness trial". Can you reference the author instead of the study?

Response: LoChro is a study that is currently still in the recruitment phase and for which no publications have yet been published. However, it is registered in the German Clinical Trials Register under the ID: DRKS00013904. ID added as reference. The following explanation added: “Part of the study is the use of trained volunteers as support for chronically ill, multimorbid elderly after a hospital stay. The results of this review contributed to the development of the training.”

Comment: Page 17 lines 420-434 talks specifically to Germany. Can you expand upon this and how it may apply to other countries? Otherwise, this paper should just focus on studies conducted in Germany.

Response: The comment refers to the German-speaking studies from Philippi et al. and Haider et al. and the curriculum “PEQ”. The studies represent a general trend of adult education in Germany (this was subsumed, for example, by the cited Dinkelaker et al. 2015). Since no other theoretical training-trend can be identified within the other available studies, the constructivist approach - as an approach that could also get international importance - is briefly discussed. Revised as follows: “Looking at theoretical influences within the studies, one trend becomes visible: Three training concepts used constructivist learning theory to justify their curriculum (Philippi et al. [108, 109, 112, 131], partially Haider et al. [113–116] and the curriculum “PEQ” [128]) Those three came from German-speaking authors. Based on the available information on the other studies, no other trends on the theoretical background of their trainings could be identified. Constructivist concepts are …”
References