Implementation of fall prevention programs: exploring the barriers and needs of district nurses - A qualitative study

Master's Thesis

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ENGLISH ABSTRACT

Title:

Implementation of fall prevention programs: exploring the barriers and needs of district nurses - a qualitative study.

Background:

Falls are considered a threat to the independence and health of older people. Dutch district nurses have an important role in maintaining independence among older people living in the community and prevention of falling. Despite the availability of existing evidence with regards to the effectiveness of fall prevention programs, its implementation in clinical practice remains challenging. Little is known about the barriers and needs that district nurses perceive with regards to implementation of existing fall prevention programs.

Aim:

Exploring the perceived barriers and needs of district nurses with regards to the implementation of existing evidence-based fall prevention programs for older people living at home.

Method:

A generic qualitative design with semi-structured face-to-face and telephone interviews was conducted. District nurses were sampled purposively. Interviews were guided by a topic list. All interviews were conducted between March and April, 2020 in the Netherlands. Braun and Clarke's thematic analysis was applied.

Results:

In total, twelve district nurses were interviewed. Four main themes were identified: experienced knowledge deficit, perceiving collaboration on an interprofessional level, reaching and attaining older people and perceiving urgency of fall prevention.

Conclusion:

The results of this study demonstrate that district nurses perceive knowledge deficits with regards to fall prevention. Fragmentation of care and lack of concertation between professionals are perceived as important barriers in the interprofessional collaboration. Needed in enhancing interprofessional collaboration is effective communication. Reaching and attaining older people and the perceived urgency of fall prevention can also be considered important barriers. The findings may provide guidance to enhance a successful implementation of fall prevention programs for older people living at home.

Keywords:

Accidental Falls; Prevention and Control; Primary Care Nursing; Qualitative Research; Aged

DUTCH SUMMARY

Titel:

Implementatie van valpreventie programma's – de ervaren knelpunten en behoeftes van wijkverpleegkundigen: een kwalitatieve studie.

Achtergrond:

Vallen wordt beschouwd als een bedreiging voor de onafhankelijkheid en gezondheid van ouderen. Nederlandse wijkverpleegkundigen hebben een belangrijke rol in het behouden van de zelfstandigheid van ouderen die thuis wonen en daarmee ook het voorkomen van vallen. Ondanks het beschikbare wetenschappelijke bewijs over de effectiviteit van valpreventie programma's blijft de implementatie naar de praktijk weerbarstig en moeilijk. Er is weinig bekend over de knelpunten en behoeftes die wijkverpleegkundigen ervaren met betrekking tot implementatie van bestaande valpreventie programma's.

Doel:

Het exploreren van de ervaren knelpunten en behoeftes van wijkverpleegkundigen met betrekking tot de implementatie van bestaande wetenschappelijk bewezen valpreventie programma's voor thuiswonende ouderen.

Methode:

Een generiek kwalitatief onderzoeksdesign met semigestructureerde face-to-face en telefonische interviews werd toegepast. Wijkverpleegkundigen werden doelbewust geselecteerd. De interviews werden gehouden met behulp van een topiclijst. Alle interviews werden afgenomen in maart en april, 2020 in Nederland. Thematische analyse werd toegepast volgens Braun en Clarke.

Resultaten:

Twaalf wijkverpleegkundigen werden geïnterviewd in totaal. Vier hoofdthema's werden geïdentificeerd: ervaren kennistekort, ervaren samenwerking op interprofessioneel gebied, het bereiken en vasthouden van ouderen en de ervaren urgentie van valpreventie.

Conclusie:

De resultaten van deze studie tonen aan dat wijkverpleegkundigen een kennistekort ervaren op het gebied van valpreventie. Versplintering van zorg en gebrek aan afstemming tussen professionals worden beschouwd als de grootste knelpunten op het gebied van interprofessionele samenwerking. Nodig hierin is effectieve communicatie. Het bereiken en vasthouden van ouderen en de ervaren urgentie van valpreventie worden ook gezien als belangrijke knelpunten.

De bevindingen kunnen handvatten bieden bij een succesvolle implementatie van valpreventie programma's voor thuiswonende ouderen.

Trefwoorden:

Vallen; Preventie; Wijkverpleging; Kwalitatief onderzoek; Ouderen.

INTRODUCTION

Falls are considered a threat to the independence and health of older people (1). Worldwide, approximately 30% of people aged 65 and over experience a fall each year, increasing up to 32-42% for people aged 70 years or older (2). The risk of experiencing a fall at home increases with age due to reduced physical function, bone fragility and reduced muscle strength (3). In the Netherlands, from 2010 until 2018, the amount of a fatal outcome after a fall has doubled (4). In 2017, 82% of the emergency department visits in the Netherlands were caused by a fall in people aged 65 years or older (5). The costs of a fall accident are substantial to society, leading up to a total of nearly 900 million euros in 2017 in the Netherlands (5).

District nurses in the Netherlands play an important role in maintaining independence among older people living in the community. They also enact an important role in fall prevention and early identification who is at risk. With regards to community-based prevention, the district nurse has a central position, collaborates with colleagues and is actively involved in a network with other disciplines (6). One aspect of exerting fall prevention into practice is a fall prevention program. Fall prevention programs comprise multiple interventions designed for older people with regards to the prevention of falling (7).

Evidence suggests that fall prevention programs with a multifactorial approach have the best potential in preventing falls in older people (8–11). Multifactorial approaches combine exercises in strength and balance with (if necessary) adjustments at home, adjustments in medication, attention for foot issues and footwear, vitamin D supplementation and managing of possible other disorders and diseases. A multifactorial approach demands an integral approach in which multiple professionals need to collaborate with each other such as physiotherapists, occupational therapists, general practitioners, pharmacists and district nurses.

Despite the availability of existing evidence of the effectiveness with regards to evidence-based fall prevention programs, its implementation in clinical practice remains challenging (12,13). Barriers regarding the implementation according to physiotherapists, general practitioners and occupational therapists are; older people's views of falls as a 'normal' part of aging, lack of time of these healthcare professionals, guidance and training for fall prevention and a lack of interprofessional collaboration (14,15). Facilitators in implementation of fall prevention programs are considered involving family, carers and support networks of older people, effective communication between healthcare professionals and multidisciplinary care enabled by efficient referral pathways (14,15).

However, little is known about the barriers and needs that Dutch district nurses perceive with regards to existing fall prevention programs.

AIM

The aim of this study is to explore the perceived barriers and needs of district nurses with regards to the implementation of existing evidence-based fall prevention programs for older people living at home.

METHOD

Design

A generic qualitative design with semi-structured interviews was conducted for its ability to gain an in-depth understanding of the perceptions of district nurses and its ability to answer the research question in a proper manner (16).

Population and domain

Dutch primary care is a part of the Dutch health care system. The most important professionals involved are: general practitioners, local pharmacists, physiotherapists, midwives, psychologists, social workers and district nurses (17). District nurses in the Netherlands with a bachelor degree are appointed as central care professionals within communities and are expected to coordinate and deliver people-centered and integrated home care (6).

In this study, all participants were bachelor educated district nurses working for different primary care organisations in the Netherlands. Participants were eligible for inclusion if they could speak and read the Dutch language. Participants were first selected purposively, but recruitment altered through the Covid-19 pandemic, adopting the snowball method. Sampling was ceased when data saturation was reached; after no further concepts and dimensions emerged from the data (18). Maximum variation sampling concerning age and years of working experience of the district nurses was strived for to increase reflectance of diverse perspectives of the nurses and to enhance representativeness of the data (18).

Procedures

This study was conducted and reported according to the Consolidated Criteria for Reporting Qualitative research (COREQ) (19). This study was part of a larger research project collecting qualitative and quantitative data: Fall pRevention ImplEmeNtation study (FRIEND) in Utrecht, the Netherlands. The project is funded by the Dutch Organisation for Scientific Research (In Dutch: “NWO”) (20).

Since the project was embedded in a regional fall prevention implementation project (FRIEND), four contacts were supplied to the researcher (MK). Through these four contacts, fifteen eligible participants received a recruitment email composed by the researcher (MK). Participants were asked to contact the researcher (MK) if they were interested participating in the study. After this contact was established, an information letter and informed consent form were sent by email by the researcher (MK). In this email, an appointment for an interview was scheduled for a week later. In this week, the participants were given time to consider their participation and read both the information letter and informed consent form. (18).

Data collection

Data were collected between March and April 2020. A semi-structured topic list was used to guide the individual interviews (See Appendix 1). This topic list was composed after an extensive literature research creating a conceptual basis for the interviews. It was peer reviewed by two experienced members of the research team. The questions related to four main areas: the importance of fall prevention and current application, experiences with fall prevention programs in general, experiences regarding the willingness of older people and barriers and needs regarding the interdisciplinary collaboration. All interviews started with the same opening question: “Can you tell me what fall prevention constitutes to you in older people living at home?” Prior to starting data collection, the topic list was pilot tested in a pilot interview. After this pilot interview, the topic list was critically reflected upon and questions were adjusted to enhance understanding.

One interview was administered face-to-face. All other interviews were conducted by telephone. All interviews were audio-recorded, lasted approximately 45-50 minutes and were conducted by one researcher (MK). Participants were asked to provide some demographic information prior to the interview.

After each interview, memos were made by the researcher (MK) to describe observations, capture initial thoughts about emerging themes and refinement of the topic list (18).

Data analysis

Thematic analysis by Braun & Clarke was adopted to analyse the data. This was chosen for its systematic method in identifying, organizing and offering insight into patterns of meaning in data (21). All interviews were transcribed verbatim.

Data analysis was initiated after the first four interviews. The researcher (MK) became familiarised, immersed and engaged with the transcripts, by rereading them multiple times. A member-check was performed; the researcher presented a short summary of the interview transcripts to the participants to determine whether these confirmed their views, needs and barriers to enhance trustworthiness (22).

Initial codes were inductively generated by the researcher (MK). To increase reliability, a supervisor independently coded the first transcript of the researcher. Afterwards, discrepancies were discussed and reflected upon. A peer researcher also coded the first three transcripts independently of the researcher (MK) and these findings were also discussed afterwards and reflected upon. After every fourth interview, the transcripts were coded and assessed for similarities and differences by the researcher (MK).

Subsequently, potential themes were generated and constructed, resulting in a thematic map. The developing themes were reviewed in relation to the coded data and entire data set.

Here, we explored and critically reflected upon whether formulated themes worked in relation to the collated extracts of the data. Accordingly, a final rereading of the entire data set was performed to determine whether all themes meaningfully captured the entire data set.
The researcher (MK) selected extracts to present and analyse and then set out the story of each theme with or around these extracts. In this part, the analysis of extracts moved beyond the data, interpreting and conceptualizing them in a larger framework.
Data saturation was achieved after the twelfth interview and discussed with the supervisor.
Data analysis was supported by QSR International NVivo, version 12 Pro.

Ethical considerations

Ethical approval was awarded within the overall approval for the research project (FRIEND). This was confirmed by the Ethical Committee Research Healthcare Domain (ECO-GD), University of Applied Sciences Utrecht, reference number: 113-001-2020_Te_Velde.. This study was conducted according to the ethical principles of the Declaration of Helsinki (23). Informed consent was obtained by all participants prior to the interviews and audiotaped. Care has been taken to protect the anonymity of the participants in applying codes and pseudonymizing the interview transcripts.

RESULTS

Characteristics of the participants

Fifteen participants were invited to participate. Two district nurses cancelled their participation in the study after the appointment was made. One due to illness and one due to increased workload. One district nurse did not respond to the invitation.
In total, twelve participants were interviewed. The majority of the participants were female (91.7%), with a mean age (SD) of 35 (12.8) years. Participants' average work experience as a bachelor-educated district nurse ranged from 0.5 to 10 years (mean 4.5). Participants were employed for seven different primary care organisations and were all bachelor educated. One participant had previous experience in working with a fall prevention program. Participants' characteristics are presented in Table 1.

Table 1: Around here

Emerging themes

Four main themes concerning barriers and needs were identified by Dutch district nurses with regards to implementation of fall prevention programs: 1) experiencing knowledge deficits; 2) perceiving collaboration on an interprofessional level by district nurses; 3) reaching and attaining older people; 4) perceiving urgency of fall prevention. A thematic map was created; see Figure 1.

Figure 1: Around here

Experiencing knowledge deficits

A first barrier perceived by Dutch district nurses with regards to implementation of fall prevention programs and fall prevention in general is a knowledge deficit. Most of the participants had some difficulties in envisioning what a fall prevention program actually implied.
We found three ways in which these barriers became manifest: the focus of fall prevention is mainly practical, the acceptance of fall risks and perceived knowledge deficits with regards to financing fall prevention.

Focus fall prevention as mainly practical

The majority of the participants described fall prevention and its interventions being mainly practical. When asked what they understood by fall prevention of older people living at home, all participants described a main focus on the living environment of older people:

"We make an assessment in their home with regards to how the client can prevent fall risks. We look at the living situation, are there loose carpets, is somebody walking with a tool, is the bed at the right height and are there wall brackets available in the toilet or shower" (P04)

Acceptance of fall risks by district nurses

In addition, due to this more practical interpretation of fall prevention, some participants describe the acceptance of fall risks:

***"**And most of the time, when someone fell, then you think again: how could we have prevented this, we also evaluate this. Yes, sometimes someone just falls, due to their underlying physical illness and not other things" (P06)*

Some district nurses even expressed that the acceptance of fall risks was recorded in older peoples' nursing file. This was recorded after multiple fall prevention interventions had been taken and were not successful.

Perceived knowledge deficits with regards to financing fall prevention

Several participants disclosed a knowledge deficit with regards to financing fall prevention. It was expressed that they did not know how to declare the needed time for fall prevention. As one participant stated:

"Yes, the client has to be receiving care, before we can declare the money, so to speak. So you have to indicate care as a district nurse, while someone is not receiving care at that moment. At this point, we do not do that, but I can imagine that it would be able in the future, if you indicate care for fall prevention. (P07)

Perceiving collaboration on an interprofessional level by district nurses

Interprofessional collaboration is not perceived as something which occurs naturally according to most participants. Most participants described that this is needed for fall prevention to be effective. This theme can be described in terms of the fragmentation of care, a lack of concertation between professionals and effective communication.

Fragmentation of care

The Dutch health care system is organised in a certain manner which does not enhance interprofessional collaboration according to the participants. It was stated that many professionals are involved with fall prevention and they had similar tasks and overlapping responsibilities. Participants often described involvement with regards to fall prevention of

physiotherapists, occupational therapists, general practitioners and multiple healthcare organisations:

"I also think that, for instance when looking at a general practitioner or healthcare organisations, that there are so many parties which are involved. That fall prevention in this particular way is not successful. There are so many parties involved with one client" (P03)

Lack of concertation between professionals

Almost all participants described the lack of concertation between involved professionals, such as physiotherapists, occupational therapists, general practice-based nurse specialists. Participants described that these professionals do not know about each other who is involved and rarely exchanged information about their clients with each other:

"The general practice-based nurse specialist often also takes a fall risk analysis with a client. I really would appreciate it, if they perform an analysis with a client where we are also involved, that we get a report about this analysis, what is being done about it. Until now, we do not see much of that". (P09)

Effective communication

In what is needed for a better concertation between the professionals, almost all participants disclosed that knowing each other and short lines of contact were essential. It was also stated that a 'leading character' should be appointed in initiating fall prevention programs in the community:

"When nobody steps up and takes the lead then nothing will be initiated". (P03)

To enhance interprofessional communication, most participants described that there should be a possibility of getting access to or working in one multidisciplinary medical file:

"Well, that is an electronic medical record, in which you have a multidisciplinary care plan, in which you can report and keep all involved parties informed". (P10)

Reaching and attaining older people by district nurses

A third barrier perceived by the participants is reaching and attaining older people in fall prevention. Most participants described a knowledge and insight deficit in older people as the main perceived barrier.

"When I mention that I observe a risk in falling, or, that is something I measured and that is something we are going to talk about: oh no, I do not fall at all. And then people get up to get a cup of coffee and I see them tripping three times before they get to the kitchen" (P04)

Knowledge and insight deficits in older people were primarily due to cognitive problems, for instance older people with dementia according to the participants. Most of the participants described difficulties in how to best conduct fall prevention in this specific target group. Others pointed out the difficulties in reaching older people who are not receiving care yet, but are at risk of falling:

"I must say, that is really a problem. We are supposed to apply fall prevention in the community and not just fall prevention only. But how do I get to the older people who are not receiving care yet? How do I find a portal? That is just, just a problem. Often older people receive care when something has happened already and then you are too late" (P04)

Resistance of older people in participating in fall prevention in general was also expressed by some participants. They described the fact that older people are living in their own homes and therefore being autonomous as a barrier:

"As a district nurse, you are a visitor at their home and therefore it is sometimes difficult to make the urgency evident to them" (P08)

Perceiving urgency of fall prevention

A final barrier concerning implementation of fall prevention programs is perceiving urgency of fall prevention in the participants. These barriers concern the aspect of time and the priority with other themes.

Available time for fall prevention

Participants perceived varying barriers with regards to the aspect of time. Most participants described a lack of time for applying fall prevention in a thorough manner due to getting swayed by the issues of the day.
However, some others described that time and priority for fall prevention had to be taken.

"Well, I am very easy about that. You just have to take time when necessary. But I do not perceive the time aspect as a problem at all in my job. I think when it is necessary, then you just have to take time" (P03)

Priority with other themes

It was expressed by several participants that other themes, for instance medication, often receive more attention and urgency, leaving fall prevention somewhat underexposed. As one participant stated:

"I have to say this honestly to you, when you asked me for the interview, I thought about it, but, I think, it really is a underexposed theme in district nursing" (P07)

DISCUSSION

Findings from this study demonstrate that Dutch district nurses perceive several barriers and needs with regards to the implementation of existing fall prevention programs. District nurses describe knowledge deficits with regards to fall prevention in general and about how fall prevention should be financed. They also express the fragmentation of care and lack of concertation between professionals as important barriers in the interprofessional collaboration. Needed in enhancing interprofessional collaboration is knowing each other, short lines of contact, a 'leading character' who initiates fall prevention programs and working in one multidisciplinary medical file. Reaching and attaining older people and the perceived urgency of fall prevention, such as time, are also important themes in identifying the barriers and needs of district nurses.

The findings from this study are in line with that of other qualitative studies and systematic reviews (24–28). In our study, we found that district nurses expressed a knowledge deficit with regards to applying fall prevention in general. This finding is consistent with findings from previous qualitative studies (29–31). These studies indicate that nurses recognize the importance of fall prevention management, but interventions in promoting falls quality improvement remain retroactive, due to knowledge deficits. It was also indicated that district nurses describe a sense of helplessness, frustration and concern about their ability to control fall management (29). It was also found in these studies that negative attitudes of district nurses towards falls and fall prevention in general hindered a successful implementation (29–31).

In our study, we found that interprofessional collaboration is not something which occurs naturally according to the district nurses. This theme was also described in a study by Fell et al. (32). In this study an interprofessional team approach to fall prevention was explored amongst health care professionals. Lack of understanding the role in relation to the other professionals, communication and information sharing where important factors found in this study. In this study, it was also found that the working environment of the interprofessional team was considered of eminent interest.

Another theme in our study was that district nurses had difficulty reaching and attaining older people in fall prevention. This barrier was attributed to the district nurse sensing older peoples' resistance, their missing knowledge and insight and difficulties in reaching those who are not receiving care yet. Findings from previous qualitative studies of older peoples' perceptions of falls and participation in fall prevention are consistent with our study findings (33–37) Older people report being motivated to actively participate in fall prevention activities after they start falling on a regular basis and not prior to falling (38). This offers insight in without acknowledging the risk and without confidence in fall prevention programs, older people lack compliance in engaging with fall prevention. Previous studies have found that up

to 75% of falls remain unreported, leading up to missing opportunities in effective fall prevention interventions (39–41)

The aspect of lacking time and priority with themes other than fall prevention was also subject to previous research. In the Netherlands, older people often have two or more comorbidities, which enhances complexity of care. As a result, falls often serve as a unspecific marker for an underlying disease, in which the underlying disease often receives more attention than fall prevention. This was confirmed by several studies (42,43).

Strengths and Limitations

A particular strength of this study comprises the involvement of multiple researchers in the analysis process which increases the credibility of the findings. Data saturation on all themes was achieved which contributed to the transferability of the results. A member-check was performed with all participants to ensure the data reflected their views, perceived barriers and needs.

Some limitations need to be addressed. Due to the Covid-19 pandemic, data collection was altered from face-to-face interviewing into telephone interviewing. Therefore the participants' informal and nonverbal communication were not visible to the researcher (44). The research population in this study comprises solely district nurses, while fall prevention demands an integral approach in which the perceptions of various key healthcare professionals is needed. This limits the generalizability of these findings to other professions.

Implications

We observed eleven out of twelve district nurses who were not aware of the content of fall prevention programs. Therefore, our findings give reason to believe that in nursing education, there should be paid much more attention to fall prevention in curricula. Furthermore, older people should be educated about the importance of fall prevention and more empowered to report falls to district nurses. More focus to interprofessional collaboration with regards to fall prevention is needed, prior to the implementation of a fall prevention program. In education of all healthcare professionals, there should be paid more attention on how to collaborate in a successful manner in the healthcare chain with regards to older people.

Future research is needed and should focus on increasing the interprofessional collaboration which is needed in fall prevention programs, involving all key healthcare professionals. New research should also focus on how older people can be more actively involved in fall prevention programs.

Conclusion

The results of this study demonstrate that district nurses perceive knowledge deficits with regards to fall prevention. Fragmentation of care and lack of concertation between professionals are perceived as important barriers in the interprofessional collaboration. Needed in enhancing interprofessional collaboration is effective communication. Reaching and attaining older people and the perceived urgency of fall prevention can also be considered important barriers. The findings from this study provide an increased understanding and guidance to enhance a successful implementation of existing fall prevention programs for older people living at home.

Conflict of interest

None declared.

REFERENCE LIST

1. WHO | Falls Prevention in Older Age [Internet]. [cited 2019 Nov 9]. Available from: https://www.who.int/ageing/projects/falls_prevention_older_age/en/
2. World Health Organisation. World Health Organisation. WHO Global report on falls prevention in older age. 2008.
3. Karlsson MK, Magnusson H, Peter T, Schewelov V, Rosengren BE. Prevention of falls in the elderly-A review Effect of age and gender on disc herniation surgery View project Age Period Cohort (APC) effects in hip fracture occurrence View project. 2014;(July 2014).
4. StatLine - Overledenen; belangrijke doodsoorzaken (korte lijst), leeftijd, geslacht [Internet]. [cited 2019 Nov 9]. Available from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/7052_95/table?fromstatweb
5. Veiligheid.nl. Privé-valongevallen bij ouderen. Ongevalscijfers 2017. 2017;1–25.
6. The Royal College of Physicians and Surgeons of Canada :: CanMEDS Framework [Internet]. [cited 2020 May 11]. Available from: http://www.royalcollege.ca/rcsite/canmeds/canmeds-framework-e
7. Lovarini M, Clemson L, Dean C. Sustainability of community-based fall prevention programs: A systematic review. J Safety Res. 2013;47:9–17.
8. Choi M, Hector M. Effectiveness of intervention programs in preventing falls: A systematic review of recent 10 years and meta-analysis. J Am Med Dir Assoc [Internet]. 2012;13(2):188.e13-188.e21.
9. Campbell AJ, Robertson MC. Rethinking individual and community fall prevention strategies: A meta-regression comparing single and multifactorial interventions. Age Ageing. 2007;36(6):656–62.
10. Weinstein M, Booth J. Preventing falls in older adults: A multifactorial approach. Home Heal Care Manag Pract. 2006;19(1):45–50.
11. Lee HC, Chang KC, Tsauo JY, Hung JW, Huang YC, Lin SI. Effects of a multifactorial fall prevention program on fall incidence and physical function in community-dwelling older adults with risk of falls. Arch Phys Med Rehabil [Internet]. 2013;94(4):606-615.e1.
12. Markle-Reid MF, Dykeman CS, Reimer HD, Boratto LJ, Goodall CE, McGugan JL. Engaging community organizations in falls prevention for older adults: Moving from research to action. Can J Public Heal. 2015;106(4):e189–96.
13. Clemson L. Prevention of falls in the community. BMJ. 2010;340(7755):1042.
14. van Rhyn B, Barwick A. Health Practitioners' Perceptions of Falls and Fall Prevention in Older People: A Metasynthesis. Qual Health Res. 2019;29(1):69–79.
15. Bunn F, Dickinson A, Barnett-Page E, Mcinnes E, Horton K. A systematic review of older people's perceptions of facilitators and barriers to participation in falls-prevention interventions. Ageing Soc. 2008;28(4):449–72.
16. Creswell JW. Research Design: Qualitative, Quantitative and Mixed Method Aproaches. SAGE Publ [Internet]. 2007;203–23.
17. Bakker DH De, Groenewegen PP. ITALIAN OF PUBLIC HEALTH Primary care in the Netherlands : current situation and trends OF PUBLIC. 2009;6(2).

18. Holloway, I, Galvin K. Qualitative Research in Nursing and Healthcare. 4th ed. Chichester: Wiley & Sons Inc.; 2017.

19. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. Int J Qual Heal Care. 2007;19(6):349–57.

20. Over Regieorgaan SIA [Internet]. [cited 2019 Dec 12]. Available from: http://www.regieorgaan-sia.nl/over+SIA

21. Braun V, Clarke V. Chapter 4: Thematic Analysis. APA Handb Res Methods Psychol [Internet]. 2012;2:57–71. Available from: http://content.apa.org/books/13620-004

22. Corcoran K. Evaluation of an Educational Workshop to Increase Comfort Levels of Professional Caregivers with End-of-Life Care. MEDSURG Nurs [Internet]. 2016 Mar;25(2):103–9.

23. Kong H, West S, States U. World medical association declaration of helsinki: Ethical principles for medical research involving human subjects. J Korean Med Assoc. 2014;57(11):899–902.

24. Fixsen D, Scott V, Blase K, Naoom S, Wagar L. When evidence is not enough : The challenge of implementing fall prevention strategies ☆. J Safety Res [Internet]. 2011;42(6):419–22. Available from: http://dx.doi.org/10.1016/j.jsr.2011.10.002

25. Independent AN, For V. Nurses ' Caring Attitude : Fall Prevention Program Implementation as an Example of. 2011;46(3):137–45.

26. Miake-lye IM, Hempel S, Ganz DA, Shekelle PG. Annals of Internal Medicine Inpatient Fall Prevention Programs as a Patient Safety Strategy. 2012;

27. Thoreson SR, Shields LM, Dowler DW, Bauer MJ. Public health system perspective on implementation of evidence-based fall prevention strategies for older adults. 2015;2(April):2014–6.

28. Vlaeyen E, Coussement J, Leysens G, Elst E Van Der, Goemaere S, Wertelaers A, et al. Characteristics and Effectiveness of Fall Prevention Programs in Nursing Homes : A Systematic Review and Meta-Analysis of. 2015;211–21.

29. Colón-emeric CS, Pinheiro SO, Anderson A, Porter K, Mcconnell E, Corazzini K, et al. Connecting the Learners : Improving Uptake of a Nursing Home Educational Program by Focusing on Staff Interactions. 2013;54(3):446–59.

30. Resnick B, Quinn C, Baxter S. Testing the Feasibility of Implementation of Clinical Practice Guidelines in Long-Term Care Facilities. :1–8.

31. Wagner LM, Damianakis T, Mafrici N, Robinson-holt K. Falls Communication Patterns Among Nursing Staff Working in Long-Term Care Settings. Clin Nurs Res. 2010;19(3):311–26.

32. Fell N, Clark A, Jackson J, Angwin C, Farrar I, Bishop C, et al. Journal of Interprofessional Education & Practice The evolution of a community-wide interprofessional fall prevention partnership : Fall prevention as a vehicle for community and university collaboration and interprofessional education. 2017;8:47–51.

33. Hughes K, Beurden E Van, Eakin EG, Barnett LM, Patterson E, Backhouse J, et al. Older Persons ' Perception of Risk of Falling : Implications for Fall-Prevention Campaigns. 2008;98(2).

34. Stevens JA, Noonan RK, Rubenstein LZ. Older Adult Fall Prevention : 2010;16–20.

35. Borup IK. Older people's perception of and coping with falling, and their motivation for fall-prevention programmes. 2014;(October).

36. Calhoun R, Meischke H, Hammerback K, Bohl A, Poe P, Williams B, et al. Older Adults ' Perceptions of Clinical Fall Prevention Programs : A Qualitative Study. 2011;2011.

37. McMahon, S, Talley, KM, Wyman J. Older people's perspectives on fall risk and fall prevention programs: a literature review. Int J older people nursing. 2008;23(1):1–7.

38. Laing SS, Silver IF, York S, Phelan EA. Fall Prevention Knowledge , Attitude , and Practices of Community Stakeholders and Older Adults. 2011;2011(2).

39. Andersen JR, Sandvoll AM. Deficient reporting of falls in nursing homes. 208.

40. Sanghavi, P, Pan, S, Caudry D. Assessment of nursing home reporting of major injury falls for quality measurement on nursing home compare. Health Serv Res. 2020;(55):201–10.

41. Osho O, Owoeye O, Armijo-olivo S. Adherence and Attrition in Fall Prevention Exercise Programs for Community- Adherence and Attrition in Fall Prevention Exercise Programs for Community-Dwelling Older Adults : A Systematic Review and Meta-Analysis. J Aging Phys Act. 2018;(26):304–26.

42. Ball JE, Murrells T, Rafferty AM, Morrow E, Griffiths P. ' Care left undone ' during nursing shifts : associations with workload and perceived quality of care. 2014;116–25.

43. Smith ML, Stevens JA, Ehrenreich H, Wilson AD, Schuster RJ, Cherry COB, et al. Healthcare providers ' perceptions and self-reported fall prevention practices : findings from a large New York health system. 2015;3(April):1–5.

44. Carr ECJ, Worth A. The use of the telephone interview for research. NT Res. 2001;6(1):511–24.

TABLES AND FIGURES

Table 1. *Participant demographic characteristics.*

Participant	Gender	Age	Working experience (in years)	Educational level
1	F	50-60	0-5	Bachelor
2	F	60-70	5-10	Bachelor
3	F	30-40	10-15	Bachelor
4	F	20-30	0-5	Bachelor
5	F	20-30	5-10	Bachelor
6	F	20-30	0-5	Bachelor
7	F	20-30	0-5	Bachelor
8	F	50-60	0-5	Bachelor
9	F	20-30	0-5	Bachelor
10	M	20-30	0-5	Bachelor
11	F	20-30	0-5	Bachelor
12	F	30-40	5-10	Bachelor

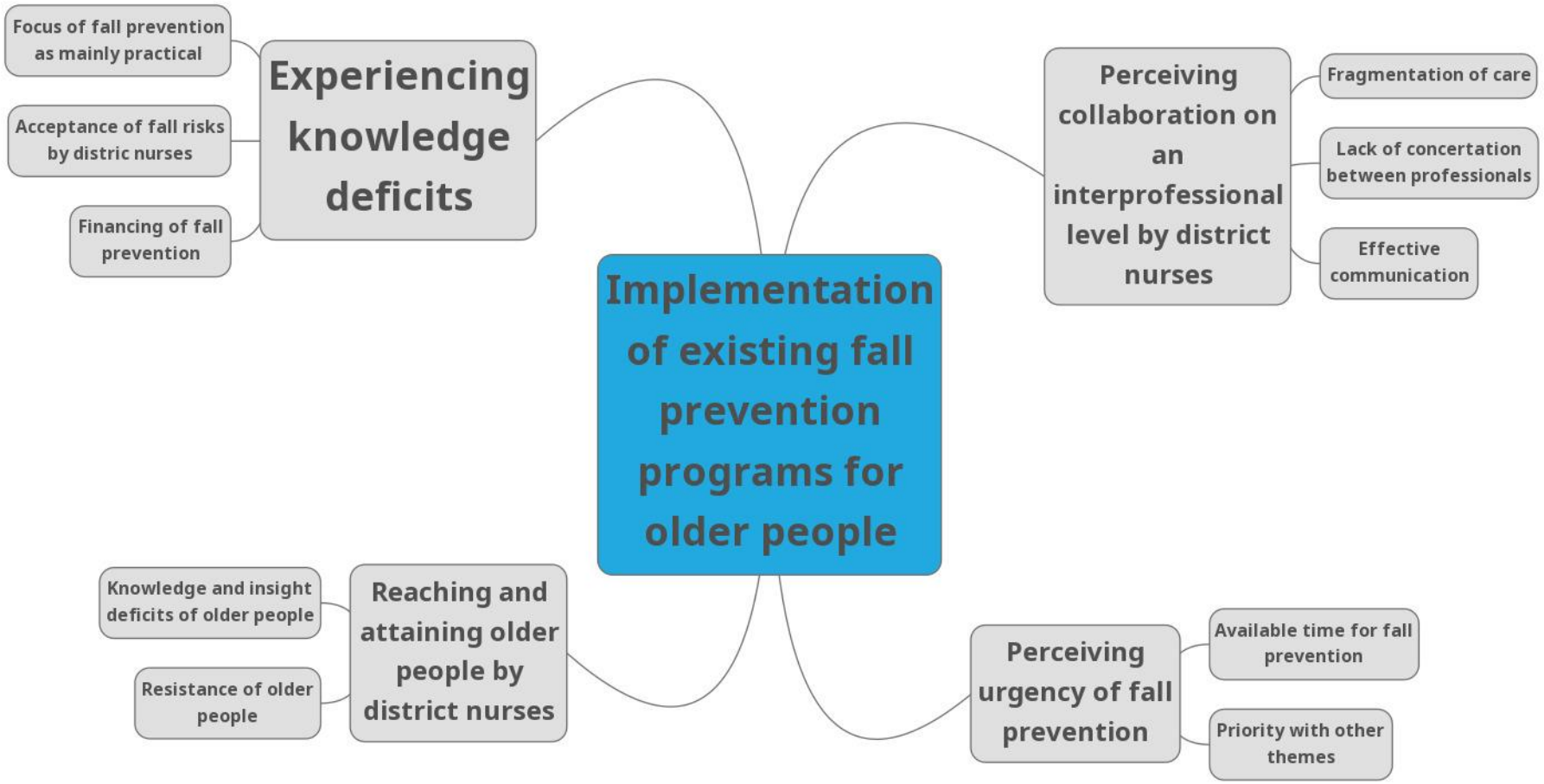

Figure 1. *Thematic map of the perceived barriers and needs of district nurses with regards to implementing fall prevention programs for older people living in the community.*

APPENDIX 1: Topic list of the semi-structured interviews with district nurses

Topic list	
Importance of fall prevention and current application	How important do you perceive fall prevention in your job? How do you apply fall prevention at this moment in your job? What are current barriers and needs with regards to fall prevention?
Experiences with fall prevention programs in general	Can you explain to me what you are currently doing with fall prevention on district level (secondary prevention)? Can you explain whether you have any experience with fall prevention programs? Or can you envision what is comprises? What should be the role of the district nurse in a fall prevention program?
Experiences regarding the willingness of older people	What are your experiences in the willingness to participate in fall prevention (programs)? Can you imagine why? Could you share some examples and how you dealt with this? What are barriers and needs with regards to the reluctance of older people in participating in fall prevention (programs)?
Barriers and needs regarding the interprofessional collaboration	How does the interprofessional collaboration with regards to fall prevention (programs) currently takes places in your district? What are current barriers and needs? What is needed at organizational level in enhancing a successful implementation of fall prevention programs? Does the interprofessional collaboration in other themes, for instance medication, function better or different? What can be learned from that?
Final question	What is, according to you, the ultimate tip or tips to increase interprofessional collaboration with regards to fall prevention (programs)?