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## Ambitions and obstacles for evidence-based municipal primary healthcare – a mixed- methods study

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### ABSTRACT

**Background:** Research is limited on registered healthcare professionals (RHCP) usage of research and evidence-based practice (EBP) in Swedish municipal primary healthcare work.

**Aim/Objectives:** The aim of this study was to increase the understanding of experiences, attitudes, and conditions of usage of research and implementation of EBP among RHCPs in a Swedish municipality setting. Further, the study aimed to explore whether those attitudes and conditions were associated with RHCP basing their work on research.

**Material and Methods:** The study was a mixed- methods study of a convergent design with five dialogue meetings and a web-based survey. Participants were RHCP recruited from one large size municipality.

**Findings:** Registered healthcare professionals struggled between personal and organisational conditions to use research and work according to EBP. They were torn between personal ambitions and lack of skills to use research, whereas having an advanced level education was significantly associated with basing work on research. Lack of organisational resources and support made usage of research and implementation of EBP difficult.

**Conclusion:** There is a need to strengthen the RHCP competence in using research evidence in clinical practice. Managemental support, education and clinical goals could improve the conditions for usage of research and implementation of EBP.

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Evidence-based practice; health promotion; integrated care; registered healthcare professionals; research usage; team-based

## Introduction

With the ongoing national change towards local integrated care [1,2], advanced care is moving from hospitals to primary healthcare provided by municipalities and country councils [1]. Thus, larger demands are put on municipal registered healthcare professionals (RHCP) such as occupational therapists (OT), physiotherapists (PT) and registered nurses (RN) to implement evidence-based knowledge about interventions for individuals with advanced healthcare needs. Originating from evidence-based medicine [3] evidence-based practice (EBP) is a framework ensuring a conscious and systematic usage of different sources of information, integrating the best available research evidence with professional expertise, clinical patient state, context, and patient references and choice when deciding what intervention to use [3,4].

RHCPs are by law and codes of ethics obliged to use science and proven experience in their everyday work [5–8]. The Swedish National Board of Health and Welfare promotes EBP as a tool for decision-making about interventions [9]. In research, different perspectives of OTs', PTs' and RNs' usage of research and implementation of EBP have been described. For example, OTs' positive attitudes towards implementation of EBP were associated with increased use of evidence in practice [10]. EBP was experienced as a means for enhancing the credibility of the OT field and profession, but could also be perceived as too complicated [11], time-consuming to implement in practice [10], and result in a consistent lack of implementation [11,12]. PTs wanted to base their work on research, were interested in research [13–15], and aware of their personal responsibility to base their work on evidence [14]. While a scientific approach

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was the highest prioritised foundation for selection of clinical treatments among PTs from different health-care contexts in Sweden, clinical practice was experienced as being based on research to a moderate/low degree, or not at all [13]. A literature review [15] highlighted the disparity between PTs' attitudes and behaviour, where professionals despite positive attitudes failed to consistently implement EBP. While the levels of implementation were low, results from literature reviews from the field of nursing [16,17] revealed that RNs valued EBP highly and believed that it was important to standardise clinical practice.

Evidence-based knowledge not making its way into practice could be described as a knowledge-to-action (KTA) gap. The KTA process is described by Graham et al. [18] as a two-phased process. The knowledge creation phase represents creation of research and consists of all research available for usage in practice. Knowledge aggregated from research is used to construct for example practice guidelines and care pathways with purpose to present knowledge in concise formats to meet stakeholders' needs and facilitate uptake and implementation of knowledge. The action cycle is the process where knowledge is implemented including activities that might be needed to apply knowledge in practice [18]. Implementation of evidence in practice could also be affected by personal and organisational attitudes and conditions and an organisational readiness for change [19].

Factors hindering usage of research and implementation of EBP such as, lack of time to search for, read, [13,15,16,20] and not having access to research [14,16] have frequently been reported in research. Lack of confidence in searching for, interpreting and assessing the quality of research [15,20] and how to generalise research results into a clinical context [14,15,20] were other hindrances reported. Academic studies on the advanced-level had a positive impact on the usage of research and implementation of EBP [12,13,15,16]. Giving oneself time to read research, having support from colleagues, team members and managers to prioritise searching for evidence, having positive attitudes towards EBP, and working in specialised teams [10] were factors enabling EBP. Organisational factors such as getting time to read research [20], having access to full-text articles [12], support for reflective practice [10,12], collaborative learning, and positive attitudes and readiness for change [10] were beneficial as well. With RHCPs working in complex organisational structures interest has increased on how organisational culture could affect RHCPs usage of research and EBP [21–23]. Organisations focusing on tasks and achieving outcomes involved less time for

reflection required for assessing, reading and critiquing research [21,22]. In cases of organisational stress such as high staff turnover, EPB activities were less encouraged [23]. However, dedicated practitioners with a genuine interest for EBP could function as champions, facilitating and promoting EBP in their organisations. In organisations with managers paying attention to and measuring EBP activities, the organisational culture for EBP could improve [23].

A key component in person-centred integrated care is teamwork where different professionals' knowledge and competencies complement each other and are utilised effectively [2]. Multi-professional interventions are also highly recommended and prioritised in Swedish national guidelines with evidence-based recommendations such as those for stroke, cognitive disease, and palliative care [24–26]. Further, RHCPs responsibility for person-centred care and interprofessional collaboration is emphasised in the professional codes of ethic [6–8] such as those for Occupational therapy [6]. With RHCPs in municipal primary healthcare working close together we believe there are benefits for OTs, PTs and RNs to understand the conditions, attitudes and experiences for usage of research and implementation of EBP among the professions from a RHCPs perspective.

In Sweden, municipalities ( $N=290$ ) are responsible for most of the primary healthcare provided to people living in ordinary housing (home healthcare), residential care facilities, short-term residential care facilities, and to adults in need of special support and services. OTs, PTs and RNs are the most common RHCPs in municipal primary healthcare [27], with increasing demands for multi-professional teamwork. Few RHCPs in municipal primary healthcare have completed education on the advanced or research levels, the uptake of new knowledge is low, and the healthcare provided is more often based on experience-based rather than research-based knowledge. [28]. When not implementing evidence-based knowledge, healthcare is at risk of being out of date, relying on assessments and treatments that are not the most beneficial for the patients [3,29].

Understanding individual and organisational experiences, attitudes and conditions is important when exploring EBP in an organisation. With a research gap on research usage and implementation of EBP in Swedish municipal primary healthcare the study aimed to increase the understanding of experiences, attitudes, and conditions of usage of research and implementation of EBP among RHCPs in a Swedish municipal primary healthcare setting. Further, the study aimed to explore whether those attitudes and conditions were associated with RHCPs basing their work on research.

## Material and methods

### Study context

This study was a part of an ongoing collaboration between a university and a large municipality in the south of Sweden. The goal of the ongoing collaboration is to develop and implement evidence-based, health-promoting and preventive actions in order to support active and healthy ageing for older adults within municipal primary healthcare and social services. Inspired by the Knowledge to Action Framework [18] activities for knowledge creation, will build knowledge for further actions within the collaboration [28].

The study was conducted in a large-size municipality in the south of Sweden with a population of approximately 150,000 inhabitants. The RHCPs working in municipal primary healthcare were employed by the municipal health and social care administration. At the time of the study, 290 RHCPs (RN = 192, OT = 54, PT = 44) were employed within the municipality where the study was conducted. The health and social care administration was organised into different organisational areas, such as home healthcare, residential care facilities and care for adults in need of special support and services, with employed RHCPs. The primary healthcare run by the country council was responsible for healthcare at the local healthcare centres. According to the 'threshold principle', commonly applied in Sweden, municipal primary healthcare has the responsibility for patients not able to get themselves to local healthcare centres. The municipal primary healthcare was responsible for the provision of most assistive devices for all adults from age 20, regardless of the 'threshold principle'. General practitioners (GPs) were either employed in primary healthcare centres run by the country council or were private practitioners. Much of the RNs' work was done on referral from GPs while OTs and PTs worked more independently on GP referral only for some treatments. The distribution of healthcare responsibilities between the primary healthcare providers was regulated by law [30]. Additionally, what treatments, supplies and costs the primary healthcare providers were responsible for were regulated by local agreements between the municipalities and the country council in the south of Sweden.

### Study design

We used a mixed-methods approach with a convergent design inspired by Creswell & Plano Clark [31] with qualitative and quantitative data collected concurrently.

Qualitative data were collected through five audio-recorded dialogue meetings with OTs, PTs and RNs. Dialogue meetings create a context for equal conversations, reflection and engaging in mutual learning among participants and researchers about predefined open topics [32]. The topics were defined by the researchers together with members of a senior citizen expert group. Due to the COVID pandemic, the first four meetings were conducted online, while the last one was a physical meeting. Three researchers participated in each dialogue meeting: one leading the meeting and two facilitating the discussions and taking notes. The first author (MG) participated and was responsible for audio recording in one of the dialogue meetings. Prior to the dialogue meetings, the participants were asked to digitally answer questions about their profession, year of graduation, additional education, years in practice, years of employment and from which organisational area they had experience from.

Quantitative and qualitative data were collected through a study-specific web-based survey based on existing questionnaires [33–35] and the dialogue meeting themes. The survey questionnaire consisted of closed as well as open-ended questions, categorised into four parts (Table 1).

The questionnaire was piloted for acceptance, understandability, and feasibility, followed by optimisation.

### Recruitment, participants and procedure

#### Dialogue meetings with OTs, PTs and RNs

Because of a smaller proportion OTs and PTs in comparison to RNs and an ambition of recruiting 12 participants to each dialogue meeting group, we decided to recruit participants to one group with OTs and PTs together and one group with RNs alone. An invitation was sent to all employed RHCPs ( $N=290$ ) in March 2021. The RNs, OTs and PTs who were interested in participating emailed their interest to one of the researchers. In February 2022, a second round of recruitment targeting all employed RNs ( $N=190$ ) was implemented due to few participating RNs in the 2021 dialogue meetings. For an overview, see Table 2.

For an overview of participation and dialogue meeting procedure, see Table 2. Nine OTs and six PTs ( $N=15$ ) expressed interest in participation, and to ensure a margin for dropout we invited them all. All of them participated in the first meeting and 14 participated in the second. Seven RNs expressed interest in participation and were invited to the RN group 1. Three participated in the first meeting and two of them participated in the second. Four RN expressed interest in participation in the third dialogue meeting

**Table 1.** Structure of the survey questionnaire answered by municipal registered healthcare professionals ( $N=102$ ).

Topic	Number of questions	Response characteristics	Answering scale
Background characteristics e.g. sex, profession, year of graduation, educational level	8	Closed response questions	E.g. sex, profession, years, degree
Individual and organisational attitudes and conditions regarding knowledge development	23	Closed response questions	Five alternatives (Strongly agree to Strongly disagree)
Individual and organisational attitudes and conditions regarding usage of research	2	Open-ended questions	
	14	Closed response questions	Five alternatives (Strongly agree to Strongly disagree)
Time spent in activities related to reflection, reading work-related papers, knowledge development, and time spent on using different sources of knowledge.	2	Open-ended questions	
	16	Closed response questions	Five alternatives (Never to Every day)
	1	Open-ended question	

**Table 2.** Overview of recruitment, procedure and participation in dialogue meetings.

Topic	Announced interest in participation ( $N$ )	Dialogue meeting one ( $N$ ) <sup>1</sup>	Dialogue meeting two ( $N$ ) <sup>1</sup>	Dialogue meeting three ( $N$ ) <sup>2</sup>
		Evidence-based practice	Need for competence development	Evidence-based practice and Need for competence development
First recruitment				
OT/PT group	15 (9 OT, 6PT)	15 (9 OT, 6PT)	14 (9 OT, 5PT) <sup>3</sup>	4
RN group 1	7 RN	3 RN	2 RN <sup>3</sup>	4
Second recruitment <sup>5</sup>				
RN group 2	4 RN	6	6	3 RN

<sup>1</sup>Dialogue meetings conducted in spring 2021. <sup>2</sup>Dialogue meeting conducted in spring 2022. <sup>3</sup>One participant drop-out from first dialogue meeting. <sup>4</sup>Participants in OT/PT group and RN group 1 did not participate in Dialogue meeting three. <sup>5</sup>Second recruitment of RN due to few participants in the RN group 1. <sup>6</sup>Participants in RN group 2 did not participate in Dialogue meeting one and two.

and were invited to RN group 2; three of them participated. For participant characteristics, see Table 3.

Prior to the dialogue meetings, the participants received a programme with information about the topics (Table 2) to be discussed. Each dialogue meeting was introduced by the last author (LE) followed by group dialogues guided by topic related open-ended questions. Because of few participants among RNs, dialogues were performed in full group. To encourage interactions between the participants [32], OTs and PTs were divided into smaller groups with five participants and one researcher in each group. Small group dialogues among OTs and PTs followed by summarising and shearing content from the dialogues in full group.

### Survey

The survey questionnaire was sent by email to all employed RHCPs ( $N=290$ ) and was open for 2.5 months in spring 2022. Out of 103 participants answering the survey questionnaire, 102 were included in the study. One participant was excluded because she was not an RN, OT, or PT. The response rate was 35% for all RHCPs, 54% among OTs, 50% among PTs and 27% among RNs. Mean age was 48 years. RN was the profession with the highest proportion of participants with education on the advanced-level. For sample characteristics, see Table 3.

### Data analysis and integration technique

#### Qualitative analysis

To identify themes and explain their underlying meaning we used inductive, latent thematic analysis following the six steps described by Braun and Clarke [36]. The data corpus was data collected in the dialogue meetings (transcriptions, field notes) and the open-ended questions from the survey questionnaire. In the first step LE and MG read the transcribed dialogues repeatedly, and MG familiarised herself with the data by listening to the audio files. Next, LE and MG coded the data from the first dialogue meetings, and MG then coded all remaining data. Coding was performed in the NVivo 14 data analysis software. In the third step LE and MG categorised the codes together to ensure trustworthiness. They discussed and refined the codes and preliminary themes. In the fourth step, all co-authors were involved when, themes were reviewed and refined, merged, split and reorganised until data within themes cohered meaningfully with distinctive meaning within themes and no overlap between themes. In the fifth step, the themes were defined, named and renamed to describe the core of their meaning. Finally, in the sixth step the findings section was written, with all authors contributing critical input iteratively towards the final version.

**Table 3.** Participant characteristics dialogue meetings and survey.

	Dialogue meetings		Survey	
	N (%)	Mean (SD)	N (%)	Mean (SD)
All RHCP	21 (100)		102 (100)	
Occupational therapists	9 (43)		29 (28)	
Physiotherapists	6 <sup>1</sup> (29)		22 (22)	
Registered nurses	6 <sup>2</sup> (29)		51 (50)	
Sex				
Men	1 (5)		13 (13)	
Women	20 (95)		89 (87)	
Educational level <sup>3</sup>				
Bachelor's degree or less	15 (86)		83 (81)	
Occupational therapists	9		27 (93)	
Physiotherapists	5		21 (95)	
Registered nurses	1		35 (69)	
First year of master's degree or higher	5 (14)		19 (19)	
Occupational therapists	0		2 (7)	
Physiotherapists	1		1 (5)	
Registered nurses	4		16 (31)	
Years in practice		19.2 <sup>4</sup> (10.8)		18.5 (10.4)

<sup>1</sup>One PT withdraw between the first and the second dialogue meeting. <sup>2</sup>One RN withdraw between the first and the second dialogue meeting. <sup>3</sup>Missing data on one RN from the dialogue meetings. <sup>4</sup>Missing data on five participants.

### Quantitative analysis

To compare differences in attitudes and conditions, the response options were dichotomised prior to the analysis. The response options 'Strongly agree' and 'Somewhat agree' were merged into 'Agree', while 'Neutral', 'Somewhat disagree' and 'Strongly disagree' were merged into 'Neutral/Disagree'. Educational level was categorised into bachelor's degree, or less and first year of advanced-level education, or higher. To analyse differences regarding years in practice, the median value (17 years) was used as cut-off for dichotomisation (0–17 vs. 18–45 years). Next, descriptive statistics were used.

Considering the sample size and character of the survey data we restricted the regression approach to single-item analysis. The dependent variable was 'I base my work on research', and 16 independent variables captured individual and organisational attitudes and conditions. Single-item logistic regression analyses were performed with each of the independent variables, followed by analyses adjusted for educational level. The confidence level was set at 95% and p-values < 0.05 indicated statistical significance. SPSS (IBM Corp. Released 2021. IBM SPSS Statistics for Windows, Version 28.0. Armonk, NY: IBM Corp) was used for the statistical analyses.

### Mixed-methods analysis

Qualitative and quantitative data were first analysed separately. The qualitative themes guided the merging into joint display tables (Table 4) to compare the qualitative and quantitative findings. The mixed methods results were presented narratively [31].

### Ethical considerations

In accordance with current Swedish legislation, formal ethical approval was not applicable [37] as no sensitive data on humans was collected. In accordance with the Declaration of Helsinki, information about the study and participation was sent to all potential participants in the dialogue meetings and distributed with the link to the survey. The information included the purpose of the study, how data would be collected, and that participation was voluntary, withdrawal would not affect employment, and data would be treated and analysed to ensure participants' confidentiality and integrity.

### Findings

Findings are presented in an overarching theme describing 'A struggle between personal and organisational conditions to use research and work according to evidence-based practice' which includes the two themes 'Being torn between personal ambitions and lack of skills to use research' and 'Organizational conditions and access to support challenges usage of research and implementation of evidence-based practice' (Figure 1).

The overarching theme describes struggles experienced by participants when personal and organisational conditions challenge usage of research and implementation of EBP. Participants had high ambitions to use research but experienced lack of skills to use research in practice. Being aware of the professional responsibility to use science and proven experience in practice as stipulated by laws and codes of ethics was challenging when not being able to fulfil

Table 4. Example of joint display table displaying theme 1 'being torn between personal ambitions and lack of skills to use research'.

Topic	Qualitative results		Quantitative results		Mixed methods comparison
	Quotes	Question	Descriptives all registered healthcare professionals N (%)	Associations with dependent variable 'I base my work on research' OR (95% CI) P-value	
Being torn between personal ambitions and lack of skills to use research	<p>'[I] hope that I base my work on research, but I'm not good at actively seeking out new research. [This] would need to be done in a more structured way, so that there is time to read and discuss various research findings/studies.'</p> <p>'As mentioned, you seek out information when you come across something that you're not as familiar with. Otherwise, you just carry on in the old experience-based ways, not evidence-based with new findings.'</p> <p>'It is important to me that the work that I, together with my patients, spend time on is that which gives the best results towards the patient's goals.'</p> <p>'[It is] also difficult to know what is relevant and most important to spend time on and it can also be difficult to interpret results. [I] have the impression that there is this desire in research to get the 'right results' and think that it is difficult to know how reliable a result is. Research is also often done at the group level and sometimes it can be difficult to generalise to the individual level.'</p> <p>'I think that it is also very difficult to be sure that... when you look at research articles and so on, you have to investigate whether... It's not enough to have a research article, but rather you also have to investigate whether it is reliable, the study that was done, and preferably compare it with other studies and so on, and that is a huge job.'</p>	<p>I want to base my work on research</p> <p>I find research interesting</p> <p>I believe that municipal healthcare work should be based on research</p> <p>I base my work on research</p> <p>Basing one's work on research saves time</p> <p>I actively search for research relevant to my work</p> <p>I create conditions enabling me to keep up to date within my field</p> <p>I feel confident in searching for information about research</p> <p>I feel confident in reviewing and analysing research results and determining if the results are relevant and reliable</p> <p>Understanding research results helps me in my everyday work</p> <p>Research results are too complicated to use in my everyday work</p> <p>I have the necessary knowledge to search for the information/knowledge I need in my work.</p>	<p>82 (80)</p> <p>80 (78)</p> <p>86 (84)</p> <p>50 (49)</p> <p>48 (47)</p> <p>31 (30)</p> <p>76 (75)</p> <p>44 (43)</p> <p>43 (42)</p> <p>66 (65)</p> <p>27 (26)</p> <p>83 (81)</p>	<p>4.9 (1.5–15.2) <math>p=0.007</math></p> <p>3.7 (1.6–8.6) <math>p=0.002</math></p> <p>8.0 (2.8–22.5) <math>p&lt;0.001</math></p> <p>2.8 (1.1–7.4) <math>p=0.040</math></p> <p>3.3 (1.4–7.7) <math>p=0.005</math></p> <p>3.3 (1.4–7.8) <math>p=0.005</math></p> <p>4.2 (1.7–10.5) <math>p=0.002</math></p>	<p><b>Confirmation</b> Participants recognising evidence as the foundation of healthcare work was confirmed in the results from the survey.</p> <p><b>Expansion</b> Not searching for research in a structured way explained why the participants despite finding research interesting and wanting to base one's work on research, did not base their work on research.</p> <p><b>Discordance</b> Participants believed that using time on interventions giving the best results towards individual patient goals was important. However, results from the survey show that the participants were unsure of whether basing work on research saves time</p> <p><b>Expansion</b> Searching for research only when encountering something new and otherwise relying on experience-based knowledge, explained why the participants believed that they created conditions to keep up to date within their field and why they were not actively searching for research.</p> <p><b>Confirmation</b> Participants lacking skills in searching for and interpreting research results was confirmed by the qualitative results.</p> <p><b>Expansion</b> When understanding research results, participants were more likely to base their work on research and experienced research results as helpful in their work.</p> <p><b>Expansion</b> Participants believing they had the necessary knowledge to search for the information/knowledge needed in their work while not feeling confident in searching for and interpreting research results, could imply that they believed that other sources of knowledge than research provided enough knowledge in their work.</p>

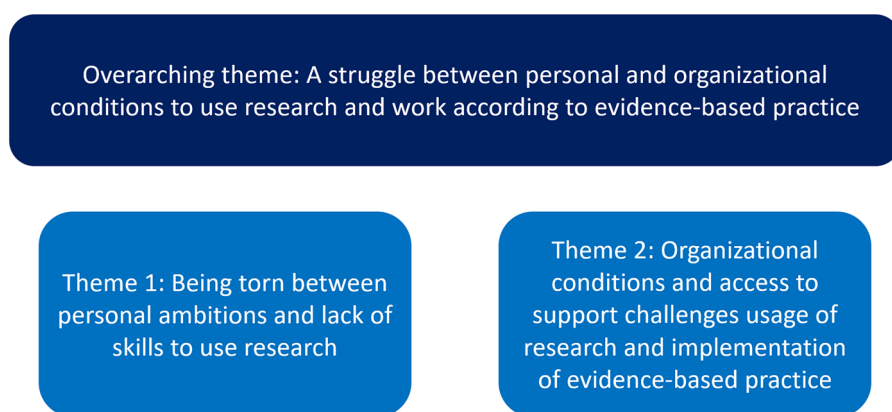


Figure 1. Overarching theme with two underlying themes.

these obligations due to experienced lack of organisational resources, support and structures. When participants experienced not being able to fulfil their personal ambitions and professional obligations they resigned and based their work primarily on experience-based knowledge but called for support and structures to initiate change towards EBP.

### ***Theme 1: Being torn between personal ambitions and lack of skills to use research***

This theme describes the struggle when personal conditions such as lack of skills in searching for, interpreting and using research results, challenges the ambitions towards EBP. Participants were torn between wanting to and not knowing how to use research in practice. The participants recognised evidence as an important foundation of healthcare work. Most of the survey respondents wanted to base their work on research (80%) and found research interesting (78%). Despite that, less than half reported that they were basing their work on research. RNs was the profession with the highest proportion of practitioners basing their work on research (59% followed by PTs (45%) and OTs (34%) (Table 5). Participants described that it was important that they used their and their patients time on interventions that provided the best results towards individual patient goals but basing work on research was experienced as time saving by less than half of the survey participants. Slightly more than half of them did not feel confident in searching for and interpreting research results (Table 5). A higher proportion of those with an advanced-level education (63%) felt confident in interpreting research results in comparison to those with a bachelor's degree, or less (37%) (Table 6). The participants reported

different attitudes regarding how research results could be used in their clinical work. Close to two thirds (65%) reported research results being supportive and nearly one third (27%) believed that research results were too complicated to use (Table 5). Research results were also experienced as hard to understand and generalise, as described by one PT in the open-ended questions in the survey:

[It is] also difficult to know what is relevant and most important to spend time on and it can also be difficult to interpret results. [I] have the impression that there is this desire in research to get the 'right results' and think that it is difficult to know how reliable a result is. Research is also often done at the group level and sometimes it can be difficult to generalize to the individual level. (PT)

Keeping oneself up to date with evidence was experienced as a demanding task that required competence. It was described as difficult to know what to search for as patients had a broad range of health issues. With new research produced continuously, the participants found it difficult to keep up to date and expressed that they would like to have easier access to relevant research. They suggested journal clubs for competence-enhancing discussions about published research and how findings could be implemented in practice. Reflections on the competence to assess the reliability of research findings were expressed by a RN in the first dialogue meeting:

I think that it is also very difficult to be sure that... when you look at research articles and so on, you have to investigate whether... It's not enough to have a research article, but rather you also have to investigate whether it is reliable, the study that was done, and preferably compare it with other studies and so on, and that is a huge job. (RN)

**Table 5.** Individual and organisational attitudes and conditions depending on profession.

Question	All Registered healthcare professionals N=102		Occupational therapists N=29		Physiotherapists N=22		Registered nurse N=51	
	Agree N (%)	Neutral/disagree N (%)	Agree N (%)	Neutral/disagree N (%)	Agree N (%)	Neutral/disagree N (%)	Agree N (%)	Neutral/disagree N (%)
<i>Individual attitudes</i>								
I have the necessary knowledge to search for the information/knowledge I need in my work.	83 (81)	19 (19)	23 (79)	6 (21)	15 (68)	7 (32)	45 (88)	6 (12)
I find research interesting	80 (78)	22 (22)	23 (79)	6 (21)	18 (82)	4 (18)	39 (77)	12 (23)
I want to base my work on research	82 (80)	20 (20)	23 (79)	6 (21)	19 (86)	3 (14)	40 (78)	11 (22)
Understanding research results helps me in my everyday work	66 (65)	36 (35)	18 (62)	11 (38)	16 (73)	6 (27)	32 (63)	19 (37)
Basing one's work on research saves time	48 (47)	54 (53)	15 (52)	14 (48)	9 (41)	13 (59)	24 (47)	27 (53)
I believe that municipal healthcare work should be based on research	86 (84)	16 (16)	24 (88)	5 (17)	21 (96)	1 (4)	41 (80)	10 (20)
Research results are too complicated to use in my everyday work	27 (26)	75 (74)	8 (28)	21 (72)	5 (23)	17 (77)	14 (27)	37 (73)
I feel confident in searching for information about research	44 (43)	58 (57)	12 (41)	17 (59)	11 (50)	11 (50)	21 (41)	30 (59)
I feel confident in reviewing and analysing research results and determining if the results are relevant and reliable	43 (42)	59 (58)	13 (45)	16 (55)	11 (50)	11 (50)	19 (37)	32 (63)
I base my work on research	50 (49)	52 (51)	10 (34)	19 (66)	10 (45)	12 (55)	30 (59)	21 (41)
<i>Individual conditions</i>								
I create conditions enabling me to keep up to date within my field	76 (75)	26 (25)	24 (83)	5 (17)	13 (59)	9 (41)	39 (77)	12 (23)
I actively search for research relevant to my work	31 (30)	71 (70)	9 (31)	20 (69)	8 (36)	14 (64)	14 (27)	37 (73)
<i>Organisational conditions</i>								
I have the support I need to search for the information/knowledge needed in my work	50 (49)	52 (51)	16 (55)	13 (45)	5 (23)	17 (77)	29 (57)	22 (43)
I have the support I need to try new methods of work	59 (58)	43 (42)	18 (62)	11 (38)	10 (45)	12 (55)	31 (61)	20 (39)
My manager encourages me to use research results	12 (14)	88 (86)	1 (3)	28 (97)	3 (14)	19 (86)	10 (20)	41 (80)
I have access to research results at my workplace	12 (12)	90 (88)	1 (3)	28 (97)	4 (18)	18 (82)	7 (14)	44 (86)
I have time to read research during working hours	9 (9)	93 (91)	0 (0)	29 (100)	0 (0)	22 (100)	9 (18)	42 (82)
There is an ongoing systematic implementation of evidence-based methods at my workplace	13 (13)	89 (87)	6 (21)	23 (79)	1 (4)	21 (96)	6 (12)	45 (88)
<i>Organisational attitudes</i>								
Evidence-based work is highly valued at my workplace	43 (42)	59 (58)	7 (24)	22 (76)	9 (41)	13 (59)	27 (53)	24 (47)

Despite not feeling confident in using research, >80% experienced having the necessary knowledge to search for information and knowledge needed in their work. They experienced that they created conditions to keep themselves up to date, but few stated that they actively searched for research relevant to their work (Table 5). They relied on experience-based knowledge and guidelines and described that they felt unsure of whether they based their work on research, as described by one OT and one PT in the open-ended questions in the survey:

[I] hope that I base my work on research, but I'm not good at actively seeking out new research. [This] would need to be done in a more structured way, so that there is time to read and discuss various research findings/studies. (OT)

As mentioned, you seek out information when you come across something that you're not as familiar with. Otherwise, you just carry on in the old experience-based ways, not evidence-based with new findings. (PT)

Four attitudes and conditions describing participant motivation and action towards usage of research were significantly associated with basing work on research: believing that basing one's work on research saves time (OR 3.7;  $p=0.002$ ; 95% CI 1.6–8.6), finding research interesting (OR 4.9;  $p=0.007$ ; 95% CI 1.5–15.2), actively searching for research relevant to one's work (OR 8.0;  $p<0.001$ ; 95% CI 2.8–22.5), and creating conditions enabling one to keep up to date within one's field (OR; 2.8;  $p=0.040$  95% CI 1.1–7.4) (Table 7). Having an advanced-level education was significantly associated

with basing work on research (OR 3.7;  $p=0.022$ ; 95% CI 1.2–11.1) (Table 7). Three attitudes describing participant skills in and attitude towards using research results were significantly associated with basing work on research: feeling confident in searching for research (OR 3.3;  $p=0.005$ ; 95% CI 1.4–7.7), feeling confident in reviewing and analysing research results (OR 3.3;  $p=0.005$ ; 95% CI 1.4–7.8), and believing that understanding research results was supportive in one's work (OR 4.2;  $p=0.002$ ; 95% CI 1.7–10.5). In this sample educational level was not a confounding factor throughout the association analyses (Table 7).

### **Theme 2: Organizational conditions and access to support challenges usage of research and implementation of evidence-based practice**

This theme describes that participants usage of research and implementation of EBP is challenged by organisational conditions. When experiencing lack of structures, support and resources, unclear boundaries in regulations and professional competence not being fully utilised, participants struggled to use research and prioritise evidence-based work.

The participants expressed a lack of clarity regarding the roles and responsibilities of municipal primary healthcare as well as their own roles and responsibilities as individual healthcare professionals within that context. They felt that the organisational expectations were unclear and felt that their professions were not fully utilised within the organisation. Lack of coherent structures made teamwork, person-centred, health-promoting and preventive healthcare difficult, although it was considered important.

Less than half of the participants experienced that EBP was highly valued, with the smallest proportion among the OTs (24%) in comparison to RNs (53%) and PTs (41%) (Table 5). While less than 15% experienced that their manager encouraged them to use research results, a similar proportion experienced that there was ongoing systematic implementation of evidence-based methods (Table 5). In the open-ended questions in the survey a PT expressed that the lack of support from the manager affected her usage of research in practice:

I have never experienced that a manager has encouraged me to stay up to date and use evidence-based interventions, which in fact may require more time. Unfortunately, you limit yourself to the reality you work in. (PT)

More than half of the participants experienced that they had the support they needed to try new methods

(Table 5). RNs implemented new methods when treatments prescribed by medical doctors were based on new evidence. However, OTs described difficulties implementing rehabilitation interventions due to lack of support or structures. This was emphasised by an OT in the open-ended questions in the survey:

There is no systematic method for how rehabilitative/habilitative assessments and interventions should be implemented and followed up within the team's work. I feel that the assessments that should be done by registered professionals are not prioritized, particularly not physiotherapy and occupational therapy assessments. (OT)

Less than half of the participants experienced that they had the support needed to search for the information and knowledge needed in their work (Table 5). Lack of resources such as not having time to read research during working hours (91%) and not having access to research at work (88%) were perceived as hindrances for implementing EBP. RNs reported having some time to read research during working hours (Table 5). When no time was allocated for searching for and reading research during working hours, such tasks were prioritised only when it was really needed, and it was then experienced as being at the expense of hands-on patient time. One PT and one OT expressed in the open-ended questions a need for allocated time to consume research:

Research and evidence are of course the foundation of our work. I set aside time to read up when I feel that I need to, but wish there was more space for this during working hours. (PT)

In order to work in a quality-proofed manner and in accordance with the health care registration all measures must be based on research and proven experience, but in reality, there is no time for this. (OT)

The organisational condition having access to research results at work (OR 4.4;  $p=0.038$ ; 95% CI 1.1–17.6) was significantly associated with basing work on research (Table 7). One organisational condition and one organisational attitude towards EBP were significantly associated with basing work on research: having the support needed to try new methods (OR 2.7;  $p=0.028$ ; 95% CI 1.1–6.5), and evidence-based work highly valued at work (OR 2.8;  $p=0.016$ ; 95% CI 1.2–6.5) (Table 7).

Other organisational hindrances experienced were due to boundaries in responsibilities between municipal primary healthcare and primary healthcare run by the country council. Some participants experienced

**Table 6.** Individual and organisational attitudes and conditions depending on educational level or years in practice.

Question	Educational level N=102				Years in practice N=102			
	Bachelor's degree, or less N=83		First year of advanced-level education, or higher N=19		0–17 years N=55		18–45 years N=47	
	Agree N (%)	Neutral/ disagree N (%)	Agree N (%)	Neutral/ disagree N (%)	Agree N (%)	Neutral/ disagree N (%)	Agree N (%)	Neutral/ disagree N (%)
<i>Individual attitudes</i>								
I have the necessary knowledge to search for the information/knowledge I need in my work.	67 (81)	16 (19)	16 (84)	3 (16)	45 (82)	10 (18)	38 (81)	9 (19)
I find research interesting	65 (78)	18 (22)	15 (79)	4 (21)	43 (78)	12 (22)	37 (79)	10 (21)
I want to base my work on research	67 (81)	16 (19)	15 (79)	4 (21)	47 (86)	8 (14)	35 (75)	12 (25)
Understanding research results helps me in my everyday work	53 (64)	30 (36)	13 (68)	6 (32)	37 (67)	18 (33)	29 (62)	18 (38)
Basing one's work on research saves time	36 (43)	47 (57)	12 (63)	7 (37)	27 (49)	28 (51)	21 (45)	26 (55)
I believe that municipal healthcare work should be based on research	69 (83)	14 (17)	17 (90)	2 (10)	47 (86)	8 (14)	39 (83)	8 (17)
Research results are too complicated to use in my everyday work	23 (28)	60 (72)	4 (21)	15 (79)	12 (22)	43 (78)	15 (32)	32 (68)
I feel confident in searching for information about research	34 (41)	49 (59)	10 (53)	9 (47)	30 (55)	25 (45)	14 (30)	33 (70)
I feel confident in reviewing and analysing research result and determining if the results were relevant and reliable	31 (37)	52 (63)	12 (63)	7 (37)	28 (51)	27 (49)	15 (32)	32 (68)
I base my work on research	36 (43)	47 (57)	14 (74)	5 (26)	31 (56)	24 (44)	19 (40)	28 (60)
<i>Individual conditions</i>								
I create conditions enabling me to keep up to date within my field	61 (74)	22 (26)	15 (79)	4 (21)	41 (75)	14 (25)	35 (75)	12 (25)
I actively search for research relevant to my work	24 (29)	59 (71)	7 (37)	12 (63)	14 (25)	41 (75)	17 (36)	30 (64)
<i>Organisational conditions</i>								
I have the support I need to search for the information/knowledge needed in my work	43 (52)	40 (48)	7 (37)	12 (63)	24 (44)	31 (56)	26 (55)	21 (45)
I have the support I need to try new methods of work	52 (63)	31 (37)	7 (37)	12 (63)	33 (60)	22 (40)	26 (55)	21 (45)
My manager encourages me to use research results	12 (14)	71 (86)	2 (10)	17 (90)	4 (7)	51 (93)	10 (21)	37 (79)
I have access to research results at my workplace	11 (13)	72 (87)	1 (5)	18 (95)	5 (9)	50 (91)	7 (15)	40 (85)
I have time to read research during working hours	7 (8)	76 (92)	2 (10)	17 (90)	6 (11)	49 (89)	3 (6)	44 (94)
There is an ongoing systematic implementation of evidence-based methods at my workplace	12 (14)	71 (86)	1 (5)	18 (85)	4 (7)	51 (93)	9 (19)	38 (81)
<i>Organisational attitudes</i>								
Evidence-based work is highly valued at my workplace	35 (42)	48 (58)	8 (42)	11 (58)	22 (40)	33 (60)	21 (45)	26 (55)

hindrances in using treatments in cases where the local country council healthcare centres were responsible for the supplies. The 'threshold principle' made health-promoting and preventive work difficult. OTs and PTs described that they could identify needs for health-promoting and preventive interventions when prescribing assistive devices, but they were not responsible for and should not initiate such interventions if the patient could get him-/herself to the local healthcare centre or a gym.

To start a change towards more EBP, the participants called for planning and management of how their professions, roles, and responsibilities should be utilised, and structures and strategies for implementation and development of EBP in municipal primary

healthcare. This was expressed by an OT in the open-ended questions in the survey, and one PT in the open-ended questions, when saying:

I don't feel that there is a mission to develop the profession. [Managers such as] medical responsible for rehabilitation (MAR), municipal healthcare managers, quality managers or others need to steer towards a common goal. [To] Make the municipal healthcare mission weigh more heavily in the health and social care administration. I feel that it is currently the Social Services Act that controls the planning. There is no plan for how the change to a more evidence-based organization should take place. Sometimes it feels as though there are a lot of people running around in a hamster wheel. The high

**Table 7.** Factors associated with registered healthcare professional basing work on evidence.<sup>1</sup>

Explanatory variable <sup>1</sup>	Single-item analysis		Single-item adjusted <sup>2</sup>	
	OR (95% CI)	P-value	OR (95% CI)	P-value
<i>Individual attitudes</i>				
I have the necessary knowledge to search for the information/knowledge I need in my work.	1.4 (0.5–3.9)	0.505	1.4 (0.5–3.9)	0.549
I find research interesting	4.4 (1.5–13.0)	<b>0.008</b>	4.9 (1.5–15.2)	<b>0.007</b>
Understanding research results helps me in my everyday work	4.0 (1.7–9.6)	<b>0.002</b>	4.2 (1.7–10.5)	<b>0.002</b>
Basing one's work on research saves time	4.0 (1.8–9.1)	<b>&lt;0.001</b>	3.7 (1.6–8.6)	<b>0.002</b>
I believe that municipal healthcare work should be based on research	2.4 (0.8–7.5)	0.129	2.3 (0.7–7.4)	0.162
Research results are too complicated to use in my everyday work	2.2 (0.9–5.4)	0.094	2.4 (1.0–6.2)	0.063
I feel confident in searching for information about research	3.4 (1.5–7.8)	<b>0.003</b>	3.3 (1.4–7.7)	<b>0.005</b>
I feel confident in reviewing and analysing research results and determining if the results are relevant and reliable	3.8 (1.6–8.6)	<b>0.002</b>	3.3 (1.4–7.8)	<b>0.005</b>
<i>Individual conditions</i>				
I create conditions enabling me to keep up to date within my field	2.8 (1.1–7.2)	<b>0.034</b>	2.8 (1.1–7.4)	<b>0.040</b>
I actively search for research relevant to my work	7.7 (2.8–21.2)	<b>&lt;0.001</b>	8.0 (2.8–22.5)	<b>&lt;0.001</b>
<i>Organisational conditions</i>				
I have the support I need to search for the information/knowledge needed in my work	0.8 (0.4–1.7)	0.550	0.9 (0.4–2.0)	0.740
I have the support I need to try new methods of work	1.9 (0.9–4.3)	0.104	2.7 (1.1–6.5)	<b>0.028</b>
My manager encourages me to use research results	2.1 (0.6–6.7)	0.225	2.3 (0.7–7.5)	0.178
I have access to research results at my workplace	3.6 (0.9–14.1)	0.068	4.4 (1.1–17.6)	<b>0.038</b>
There is an ongoing systematic implementation of evidence-based methods at my workplace	1.8 (0.5–5.9)	0.338	2.1 (0.6–7.3)	0.217
<i>Organisational attitudes</i>				
Evidence-based work is highly valued at my workplace	2.6 (1.2–5.9)	<b>0.019</b>	2.8 (1.2–6.5)	<b>0.016</b>
<b>Variables controlled for</b>				
Educational level <sup>3</sup>	3.7 (1.2–11.1)	<b>0.022</b>		

<sup>1</sup>Answer options dichotomised to Agree and Neutral/Disagree (reference). <sup>2</sup>Adjusted for educational level. <sup>3</sup>Educational level is dichotomised to bachelor's degree, or less (reference) and first year of advanced-level education, or higher.

turnover of municipal healthcare staff makes it difficult to move ahead. The rehabilitation issues must be highlighted for the sake of our clients. (OT)

...there should be time and space to use evidence soundly in the municipal healthcare. There is so incredibly much research. How should it be used in the municipal healthcare? How should it be implemented? What determines what the focus should be on? (PT)

## Discussion

The findings illustrate the current state of play in a Swedish municipality where RHCPs struggle between their own ambitions to base work on research and fulfilling professional obligations towards EBP, and finding it difficult to fulfil these ambitions and obligations. When experiencing lack of competence to use research, perceiving that their professions were not utilised in the organisation, lack of resources and support to use research and implement EBP as well as hindrances due to regulations, the RHCPs resigned and relied on experience-based knowledge. Whereas a higher educational level was associated with RHCPs basing work on research in a municipal context, few had education on an advanced-level, especially among OTs and PTs. Their ambitions and experienced support from the organisation were of importance for

basing their work on research and was not related to educational level. This study gives insight that professional competence, advanced-level education as well as individual and organisational attitudes and conditions are important for RHCPs basing work on evidence in municipal primary healthcare.

Our findings are in line with Eek et al. [13] showing that advanced-level education is significantly related to RHCPs basing their work on research. Educational level has previously been reported to have an effect on PTs basing their work on research and their perceived ability to understand and interpret research papers [13]. In a review by Scurlock-Evans et al. [15], level of academic preparation had a positive relationship with usage of evidence-based interventions, higher levels of research usage in practice, and higher adoption of EBP among PTs [15]. Among OTs, academic degree was the strongest individual predictor of usage of research [10]. OTs with a PhD degree had the highest rate of implementation of EBP in comparison to those with a bachelor's or master's degree [12]. Educational level is relevant because the proportion of RHCPs with advanced-level education is low in municipal healthcare, especially among OTs and PTs. In our study, RNs reporting having better conditions to read research and base their work on research in comparison to OTs and PTs could be explained by the fact that a larger proportion had advanced-level education.

Further, our findings show that RHCPs who felt confident in searching for, understanding and interpreting research results were more likely to base their work on research, regardless of their educational level. While less than half of our participants reported having this confidence, they expressed an ambition to develop their skills and suggested journal clubs to discuss research articles and how research findings could be implemented in practice.

Individual and organisational attitudes and conditions, together with organisational conditions regarding the municipal primary healthcare roles and responsibilities, created a culture towards usage of research and implementation of EBP, as discussed in previous research. Applying the nature of human activity dimension from a theoretical framework for analysing and understanding an organisational culture, Scott-Findlay & Golden-Biddle [21] aimed to increase the understanding of research usage in acute care RNs' work. An organisation could be oriented between the two extreme positions of doing, focusing on tasks and achieving outcomes, or being, with a here and now focus accepting an inability to change outcomes, and a belief that things happen beyond the practitioner's control. Healthcare organisations and acute care RNs' work were strongly positioned for doing, while using research and implementing EBP, involving reflection and time for assessing, reading and critiquing research, required time for being [21]. Thompson et al. [22] discussed how the culture of busyness and lack of time affected research utilisation among RNs working in hospital settings in Canada. The RNs and the organisation created a 'culture of busyness' in which direct patient care was highly valued and sitting down and reading research could create feelings of guilt [22]. Not prioritising EBP is also in line with Worum et al. [38], who described that despite PTs' awareness of the importance of research-based knowledge, they prioritised daily routines over finding time to keep up to date. A culture of 'doing' and 'busyness' seems to exist in the municipality context where our study was conducted. The majority of our participants experienced not having time to read research and when taking time to read it was experienced as being at the cost of hands-on patient time. In their struggle of fulfilling the ambition to base work on research, 'doing' was prioritised and the participants managed most of their work relying on their experience-based knowledge, only searching for new knowledge when encountering something new.

An aspect of being a RHCP is working with people, making decisions that could have different levels of impact on them and having power over other

people due to professional competence. Reflecting on decisions and choices made in practice ensure a professional ethical consideration of the quality of the care provided [39]. The risk when not using evidence-based knowledge and adapting to personal and organisational conditions, is RHCPs exposing their patients for out-of-date treatments and potential harm. RHCPs in this study were aware of not doing enough, but despite that there was a consistent lack of reflections on the individual responsibility to fulfil professional codes of ethics among them. They emphasised difficulties to use research but did not reflect on consequences for the patients when not relying on evidence-based knowledge in practice. To develop ethical judgements, it is considered important for professionals having time for group-reflection with colleagues shearing experiences of challenges and decisions made in practice [39].

An increased knowledge and understanding of organisational culture could be beneficial for improving research usage and implementation of EBP among RHCPs in an organisation [21,23]. Dannapfel et al. [40] described how PTs working in hospitals, primary care units and private clinics in five Swedish county councils believed that an organisational culture supporting learning and competence-development activities was beneficial for research usage. Active encouragement from managers, clinical goals for the employees' knowledge development and communicated expectations and strategies for usage of research and EBP were important factors that contributed to usage of research [40] and an evidence-based organisational culture [23]. The connection between competence development, EBP and organisational culture was described in a study by Öhman et al. as well, including RHCPs working within municipal primary healthcare or geriatric wards run either by a private company or by country councils in Sweden. Through increased competence and by implementing EBP, RHCPs believed that they could increase the benefits for their patients, with better quality of life and health status, as well as improve the healthcare and social services provided while also reducing costs. But the conditions for knowledge development and EBP varied not only depending on the employees' motivation but also on whether the organisation they were working in was facilitating or aggravating towards knowledge development. With actions such as active encouragement from managers and communicated expectations and strategies for usage of research and EBP, a change towards an organisational culture facilitating EBP could be achieved [40] and organisational values be communicated. Changing an organisational

culture is a process influenced not only by the management but by all members in the organisation [23].

Among OTs in Sweden few OTs in municipal primary healthcare had an advanced-level education [34]. In this study OTs had the smallest proportion of practitioners with an advanced-level education. In addition, compared to PTs and RNs, OTs experienced EBP as least valued at work. Our finding that only 34% of the OTs based their work on research is corresponding to the national survey showing that 66% of the OTs working in municipal primary healthcare state they do not have the conditions to work evidence-based [41]. Thus, there is a need to strengthen OTs competence for using research and strengthen the value and culture of EBP in municipal primary healthcare. We agree with Krueger et al. [12] that OTs should advocate organisational support for EBP implementation, allocating time for activities to make changes for EBP implementation.

According to the results of our study, person-centred, team-based, evidence-based, health-promoting, and preventive work was perceived as important. Wanting to use the most efficient interventions to attain patient goals, but not being ascertained that EBP saves time, affects RHCPs' prioritizations. When RHCPs adapt to experienced hindrances without reflecting on potential consequences for the patients, they are not fulfilling their professional ethical responsibilities. OTs and PTs experience that rehabilitative and health-promoting interventions are hard to implement and that their professions are not effectively utilised within the organisation. While teamwork is considered crucial for health-promoting, preventive and person-centred care and a key component to local integrated care [2], a lack of structures for how teamwork should be implemented seem to create hindrances for such practice. Additionally, restrictions due to boundaries in responsibilities between primary healthcare providers inhibit the implementation of EBP and stand in contrast to local integrated care. To meet present and future healthcare challenges, use resources efficiently and improve population health, there is a need to implement health-promoting and preventive interventions [42]. Accordingly, practitioners together and managers should address hindrances and promote factors that positively influence the organisational culture and RHCPs in their usage of research and implementation of EBP in municipal primary healthcare.

### Methodological considerations

Beyond providing data about participant experiences, dialogue meetings opened for mutual learning, benefiting the collaboration that constituted the context of this study.

Because of restrictions due to the Covid pandemic, the dialogue meetings in 2021 were held online. At that time, RHCPs had become used to online meetings. As the participants were familiar to each other, we believe that the content of the dialogues was not affected. However, not being able to observe participants in person, we could have missed signs of discomfort.

When planning a mixed-methods study with a convergent design [31], the topics in the qualitative and quantitative strands should be designed to enable a merging of the results. When we analysed the qualitative data, findings describing organisational conditions related to roles and responsibilities emerged. As this topic was not expected when creating the survey, it was not possible to merge these findings with the quantitative results. The findings did however contribute to the understanding of organisational conditions and are presented within Theme 2.

To ensure high quality of data and overall validity, qualitative data collection should continue until data saturation [43]. The low interest among RNs to participate in the study is a notable limitation, and we did make attempts to achieve a better representation by arranging an additional dialogue meeting. Only including participants based on their interest, we might have missed perspectives such as lack of interest in research or not having time to engage in developmental work. Keeping these limitations in mind, the quality and generalisability was strengthened by the mixed-methods design. Data from the qualitative and quantitative strands together represent all the professions and all organisational areas within the municipal primary healthcare administration. The inclusion of only one municipality is a limitation, in particular as organisational culture and RHCPs' attitudes, conditions, and experiences affect usage of research and implementation of EBP [40,44]. Thus, the results could be different in another municipal primary healthcare context and organisational culture.

Due to limited sample size in the survey, the analysis of associations could only be validly done by applying single-item logistic regression analysis. A caution when analysing several single-item factors is that significant results could appear by chance. P-values close to  $p=0.05$  should be interpreted with caution. The mixed-methods design strengthens the interpretability of the quantitative results. Integrated with the qualitative findings, the survey results seem relevant and add to the findings in a meaningful way.

As the first author is a part-time PhD student as well as a practising PT in the municipality where the study was conducted, there is a risk for confirmation

bias. Openness among the authors during all steps in the study, teamwork, and continuous reflection were measures taken to counteract this type of bias.

## Conclusions

When personal and organisational conditions challenge personal ambitions and professional obligations of an EBP, RHCPs rely on experience-based knowledge. Reflections of the individual responsibilities and consequences of not fulfilling professional codes of ethics are largely absent. Lack of skills in using research, a culture of doing and busyness where hands-on patient work is prioritised and boundaries in regulations between primary healthcare providers create hindrances to implement EBP. To initiate change towards an organisational climate facilitating EBP, RHCPs call for planning and management of how their professions, roles, and responsibilities should be utilised, and structures and strategies for implementation and development of EBP in municipal primary healthcare. Actions are needed to develop and implement person-centred, team-based, health-promoting and preventive municipal primary healthcare, congruent with the national change towards integrated care. RHCPs ethical judgement and critical reflection on challenges and decisions made in practice need to be developed. There is a need to strengthen RHCPs competence, especially with advanced-level education, and to increase the awareness and necessity of fulfilment of professional responsibilities. More knowledge is needed on how EBP and teamwork could be implemented within municipal primary healthcare, as well as more knowledge on how primary healthcare providers could collaborate to implement local integrated care according to current policies.

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