

Supporting rural citizens to participate in healthcare activities and interprofessional collaboration: Effects of an intervention in Japanese communities

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Abstract

Background To receive high-quality healthcare, citizens should actively participate in public healthcare programs and share decision-making with medical professionals, especially in rural areas; this requires support for citizens in the form of education. Few studies examine educational interventions' effects on rural citizens' motivation to participate in public healthcare efforts or interprofessional collaboration (IPC) perceptions. Thus, the current study investigates rural citizens' participation and difficulties faced in healthcare efforts and educational intervention effects.

Methods As a quasi-experimental, mixed-methods study, 277 (156=intervention group; 121=control group) rural Japanese participants were surveyed before and after a healthcare workshop, and scores were compared. Semi-structured interviews were also conducted with 17 participants post-workshop. The contents of the interviewed were analyzed based on the framework of thematic analysis.

Results Regarding pretest–posttest difference, intervention-group participants scored significantly higher regarding participating in planning and managing self-care than control-group participants ($p=0.001$ and $p=0.014$, respectively); there was no difference regarding having a dialogue with healthcare staff and sharing knowledge. Interviews revealed three themes: ability to manage health conditions, relationship with medical professionals, and relationship among citizens. Participants reported difficulties in judging symptoms and communicating with medical professionals. Hierarchy and citizens' low motivation to participate in IPC hindered collaboration. Furthermore, community conditions, including weakening relationships, privacy issues, and social norms, affected healthcare behaviors.

Conclusions Educational interventions emphasizing healthcare and IPC may positively impact rural citizens' healthcare perceptions. However, citizens may experience difficulties changing their community conditions, enhancing limited healthcare knowledge/skills, and maintaining good relationships with medical professionals and other citizens. Both continuous educational information and interventions and dialogue among medical professionals and rural citizens should be promoted.

Background

Ordinary citizens' primary role in interprofessional collaboration (IPC) is to participate in their own healthcare by cooperating with medical professionals, particularly doctors, and to be actively involved in the decision-making process related to their own healthcare. Through such shared decision-making process, patients can obtain vital information from medical professionals and discuss with them their preferred treatment methods[1], which can improve patients' satisfaction with treatment and sense of empowerment[2]. However, some patients are afraid of being labeled "difficult" and hence defer to their physicians' opinions even when these opinions contradict their own[3].

To improve patients' participation in IPC, it is essential to improve their health literacy[4] and shared decision-making skills[5]. A patient's culture and environment affect his or her health literacy[6], and patients in medically underserved areas, such as rural areas, tend to have low health literacy[7].

Furthermore, in rural areas, social norms may affect citizens' perceptions of IPC: many consider living without help a virtue[8]. Since higher levels of health literacy can facilitate effective IPC[9][10], improvement in health literacy can be expected to improve patients' level of IPC and health conditions.

There is a need to develop educational interventions on health literacy and shared IPC decision-making and evaluate the effects on citizens' motivation to participate in their own healthcare[11], but this has received limited attention in the literature. Furthermore, there is a lack of studies on rural citizens' perceptions of their role in IPC. To fill this gap, this study investigates how an educational intervention on shared decision-making and health literacy impacts rural citizens' perceptions of their role in IPC.

Methods

Participants

This study was conducted in Unnan, Shimane prefecture, one of the most rural cities in Japan. In Unnan, a household typically constitutes a nuclear family. Further, although Unnan City Hospital is the only general public hospital, the city has 16 clinics, 3 visiting nurse stations, and 12 home care stations.

The participants were citizens of Unnan who were sampled from August to December 2018. They voluntarily indicated their intention to participate by consenting to attend an IPC educational workshop held by Unnan City Hospital physicians. Unnan has 30 communities, where citizens can select their preferred healthcare activities, such as receiving education on health promotion and disease prevention from medical care professionals, and procure support from the city hall. Information on the aforementioned workshop was publicized through the hospital's newsletter and sent to each community in Unnan. Subsequently, four communities applied to participate in the workshop. The control-group participants were selected from three communities near the hospital, and the inclusion criteria were a willingness to participate and the ability to read and answer the questionnaire. The total number of participants was 277, including 156 in the intervention group and 121 in the control group.

Materials

Educational workshop: The IPC educational healthcare workshop was conducted in five communities and focused on the theme "How do you make decisions regarding your health conditions? A discussion with medical professionals to help you answer this question." The workshop was based on the knowledge-action theory[13] and provided participants knowledge and some skills practice. The workshop content comprised general information on shared decision-making, health literacy, and IPC and included specific cases pertaining to home care and chronic diseases; information on the importance of shared decision-making and health literacy in IPC, including the advantages of and difficulties encountered in shared decision-making and its method of execution; the relationship between health and health literacy; and the contribution of health literacy and shared decision-making to IPC and the importance of IPC. After this informative presentation, those concepts were applied in practice. Using simulated cases, participants were encouraged to utilize their acquired knowledge to collaborate with various medical professionals.

For this immediate application of the workshop content, participants were divided into several groups of four to five members and asked to discuss these cases. Finally, each group shared their discussion content and received feedback from the physician and other participants. Each workshop session, including the educational lecture, discussion, and participants' presentations, took approximately 1.5 hours.

Instruments

Survey questionnaire: The 4Ps tool[14], a questionnaire comprising 12 questions, was used to measure citizens' perceptions of shared decision-making and health literacy in primary care and collaboration with multiple professionals. The participants rated each statement on a five-point scale from "1, I do not agree at all" to "5, I agree completely." The 4Ps tool comprises four patient-related subscales: 1) Having a dialogue with healthcare staff, 2) sharing knowledge, 3) participating in planning, and 4) managing self-care. Each subscale comprises three items[15]. The original version of these items was slightly rephrased and translated to Japanese to better fit the study objective, and care was taken not to change the item meanings. The revised questionnaire was used to enable testing changes in rural citizens' perceptions of IPC before and after the workshops. The questionnaire also collected data on participants' age and gender (male/female), having a primary care physician (yes/no), regular visits to primary care physician (yes/no), employment (yes/no), and self-rated health (high/low).

Interview guide: Interviews included the following questions: "What did you think of the workshop this time?" "What do you think of citizens' roles in IPC?" "What are the advantages of IPC?" "What are the disadvantages of IPC?" "What are the roadblocks to IPC progression?"

Procedure: The same survey questionnaire was administered before and one month after the workshop. The post-workshop questionnaire was sent to each community center's clerk, who then distributed them among participants and collected the completed questionnaires within one week. Three communities that had not received the intervention were selected as the control group and given the questionnaire twice (before the beginning of the study and one month later) by volunteers in their respective communities.

Purposive sampling was used to select participants for the interviews based on whether they had participated in the workshop and had sufficient motivation to discuss their relationship with medical staff. Both male and female citizens and those with and without primary care physicians were given one-on-one semi-structured interviews that lasted approximately 20 minutes and were conducted by one of two Unnan City Hospital physicians. These interviewers specialized in family medicine and home care and had experience in conducting interviews and qualitative research. They presented the IPC issue at the workshop, as well. However, the interviewer was never the presenter of that particular workshop. Hence, while the workshop was conducted by one researcher, the participants were interviewed by the other, and vice versa. All the interviews were audio recorded and transcribed verbatim.

Analyses

To analyze the differences in participant characteristics and the changes to the 4Ps questionnaire among the intervention and control groups, a difference score was computed for each participant based on the pretest and posttest. These longitudinal difference scores were compared between the two groups using the unpaired t-test. Further, t-tests and chi-squared tests were used to test potential differences in background variables between the two groups. A significance level of $p < 0.05$ was used for all comparisons. It was calculated that a minimum of 128 participants were required per group based on α (alpha)=0.05, β (beta)=0.10 (power of 90%), and a difference of one score on one 4Ps subscale.

For the qualitative data, directed content analysis was used to extract themes and concepts related to citizens' perceptions of their role in IPC. The analysis included becoming familiar with the data; generating initial codes; searching for themes; reviewing themes; defining and naming categories; and producing the report, including the selection of exemplification data and quotations. Transcripts were coded independently by R.O. and Y.R., and then checked for agreement during open coding. Subsequently, the researchers discussed the open codes and emerging concepts; further, they recoded or redefined concepts and categories wherever disagreements occurred. The data collection and analysis processes were conducted iteratively, and data collection continued until no new concepts emerged. To minimize personal bias, the transition from codes to preliminary themes and then to final themes included frequent discussions between the two authors. Further, to ensure member checking, the analysis was revealed to several participants, whose feedback was then included in the final revision of themes and concepts. Finally, no new themes emerged during the process of member checking.

Ethical approval

Prior to conducting the study, participants were informed about the study's aims and method of data disclosure and assured that their personal information would be protected, and their data would only be used for research purposes. Subsequently, the participants provided written consent to participate. Finally, this study was approved by the Unnan City Hospital Clinical Ethics Committee (approval number: 20180032).

Results

Demographic data

Participants in the intervention group were older than those in the control group ($t=5.78$, $df=274$, $p < 0.001$). Further, they visited their primary care physician more frequently and had a primary care physician more often than their counterparts in the control group ($\chi^2=10.4$, $df=1$, $p=0.001$ and $\chi^2=13.7$, $df=1$, $p < 0.001$ for intervention and control groups, respectively). No significant differences in conditions regarding gender, employment, and self-rated health were found between the groups (Table 1).

Difference in citizens' perceptions of IPC participation between the intervention and control groups

In the intervention group, the response rate of the pretest and posttest was 100% and 78.2% (122/156), respectively. In the control group, the response rate was 98.3% (119/121) at both moments. The longitudinal change in scores for the subscales “having a dialogue with healthcare staff” ($t=1.755$, $df=239$, $p=0.081$) and “sharing knowledge” ($t=1.685$, $df=239$, $p=0.093$) was not significantly different between the intervention and control groups (Table 2). For the subscales “partaking in planning” ($t=3.241$, $df=239$, $p=0.001$) and “managing self-care” ($t=2.474$, $df=239$, $p=0.014$), the increase in scores from pretest to posttest was greater in the intervention group than in the control group (Table 2).

Difficulties faced by rural citizens participating in IPC

Interviews were conducted with 17 participants, among whom the average age was 70.4 years ($SD=3.9$), and nine were men (52.3%). Through direct content analysis, three themes and seven concepts were described. The three themes were ability to manage health conditions, relationship with medical professionals, and relationship among citizens (see Table 3 for more details on themes and concepts).

Ability to manage health conditions

Difficulty in judging symptoms: Rural citizens come from various, mostly nonmedical, backgrounds. On presenting a symptom, they may not be able to determine if they should visit a medical institution. If their relatives or neighbors have adequate medical knowledge, the citizens may seek appropriate medical attention on the advice of these people. However, this is not always the case. According to one of the participants,

Through this workshop, I could confirm the importance of us participating in IPC. However, although I know that we should visit medical institutions and get healthy if we have medical problems, we cannot determine the seriousness of our symptoms. We find medical issues confusing. (Interviewee B)

The rural citizens' attitudes toward physicians depend on their relationships with the latter and the resources available in their communities. Often, they are motivated to participate in IPC; however, they hesitate to collaborate among themselves since they lack appropriate medical knowledge.

Limited collaborative experience: The workshop enabled participants to understand the importance of IPC; however, they had never experienced its effectiveness and hence were unable to understand the work done by each medical professional. For instance,

This was our first time understanding the importance of IPC. I understand that we should participate in the collaboration. However, overall, we do not know each professional's work and how they collaborate between themselves. I want to learn more about each profession. (Interviewee K)

Further, the citizens found it difficult to imagine collaborating with medical professionals. Generally, rural citizens tend to passively experience medical situations, which prohibits them from considering their role in IPC.

Relationship with medical professionals

Hierarchy in healthcare: Rural citizens perceive a hierarchical structure that separates themselves from medical professionals, particularly doctors. Traditionally, in Japan, paternalism has prevailed in health services, and patients are expected to accept physicians' decisions regardless of their own preferences. One participant stated,

We are used to following a physician's decisions. When it comes to treatment, I cannot imagine a situation in which I can provide my opinion on such decisions. Also, we do not have appropriate medical knowledge, and following their choices may be safer for us. (Interviewee M)

Today, although the shared decision-making process is becoming popular, rural citizens continue to conform to paternalism. Hence, despite feeling anxious about their treatments and preferences, they are unable to clearly state their wishes in face-to-face discussions.

Feelings of low self-efficacy: Despite understanding the importance of participation and collaboration in improving the health of both themselves and their families, some rural citizens feel inadequate while participating in IPC. They have low self-efficacy in terms of IPC participation and require more exposure to similar interventions. One participant explained it as follows,

We understand the importance of IPC and our participation in it. I am interested in it, but I do not feel any confidence while doing it. It may be the result of our lack of experience or limited understanding of the collaboration. I cannot say correctly. We may need more education in this regard. (Interviewee O)

Relationships among citizens

Weakening relationships among citizens: Today, rural communities are changing—young people are migrating from these areas, and the remaining population is growing old. These conditions are causing changes in the social structure and reducing the number of interactions among rural citizens. According to one participant,

Times have changed. In the past, we could help each other when we were in trouble. Especially when we had certain symptoms, some neighbors consulted medical professionals for us, which enabled early diagnosis and better treatments. However, in the present community, the loose connections between citizens prevent such collaborations, which may lead to the delayed treatment of critical diseases and mortality. (Interviewee K)

Rural citizens often feel unable to sufficiently help each other, which makes them anxious about their futures and hinders their IPC participation. Hence, the gradual changes in social conditions and perceptions on IPC participation may negatively affect citizens' lives.

Anxiety about privacy: Rural citizens feel anxious about privacy issues. In the past, they were quick to share information among themselves. However, in recent times, issues associated with the maintenance

of privacy have become prevalent, and the public disclosure of personal information or spread of incorrect personal information has created significant problems. One participant stated,

Now, we are very anxious about privacy and cannot share information easily, even in rural communities. Of course, privacy is essential if we want everyone to be secure in their homes. However, too much is dangerous, especially in rural areas where there are only limited resources. To collaborate with medical professionals, we must balance our need for privacy and safety. (Interviewee G)

Cultural norms: Often, rural citizens believe that they should manage their lives by themselves and are proud of their independence. Despite knowing that medical professionals and neighbors are willing to help, citizens are reluctant to ask for it. As mentioned by one participant,

We may need help in reality, but we may not feel it. Everybody must think so, when they manage to live by themselves, and in the later stages of their lives, they have to ask for some help. This trend may be strong in rural areas. (Interviewee C)

Therefore, their social norms and cultivated emotions may prevent rural citizens from asking for and receiving competent help.

Discussion

Our educational intervention improved rural citizens' perceptions of their role in IPC, particularly regarding partaking in planning and managing self-care. These findings demonstrate that rural citizens can be motivated to participate in IPC and engage in shared decision-making with medical professionals. Our questionnaire focused on citizens' motivations for IPC participation[14]. To promote rural citizens' activities to manage their healthcare and prevent diseases, they should be empowered to participate in their healthcare[16][17]. Based on the results of this study, which contradict those of earlier studies[8], rural citizens can easily be motivated to engage in IPC. However, their current inability to take appropriate action to realize IPC necessitates investigation into the citizens' beliefs regarding intent for and activities ensuring IPC participation.

Rural citizens perceive difficulties in contacting appropriate medical professionals at the appropriate time. Primary care physicians should ensure that citizens contact the right medical professionals[18]. Further, primary care physicians should provide several types of support to improve citizens' knowledge of their symptoms, which may improve the citizens' attitudes toward taking action when first experiencing symptoms [19]. Although they often lack sufficient medical knowledge to judge their symptoms, simple notifications on dangerous symptoms and clinical courses may help them understand when they should visit medical institutions[20]. This information should be provided by primary facilities; however, if there are only a few such facilities in rural areas, hospitals should disseminate this information[21].

Citizens perceive a hierarchy between medical professionals and themselves and hence are prone to feelings of low self-efficacy in healthcare. Traditionally, paternalism has been the dominant aspect of the

relationship between medical professionals and patients[12]. In rural areas, such traditions persist in various professions, including medicine[22]. Rural citizens highly respect their primary care physicians and are, in general, reluctant to express their healthcare intentions and preferences to their doctors, which often leads to a lack of motivation to participate in shared decision-making and IPC[23,24]. Moreover, this lack of motivation and opportunities to engage in IPC may cause a further decline in the citizens' self-efficacy[25].

Today, Japan is experiencing changes in its social structure; accordingly, communities may be forced to modify their social conditions, for example, by promoting IPC between citizens and medical professionals. Young people are leaving rural areas and the remaining population is becoming older. Furthermore, people in rural areas meet each other less frequently today than in the past[12]. This change may negatively affect the relationship among citizens and prevent them from providing mutual assistance. Furthermore, their cultural values make them reluctant to depend on each other, although mutual assistance during emergencies was an essential aspect of rural life in the past. Hence, both the change in relationships and the persistent traditional characteristics of rural people may prevent them from helping each other[26]. However, these social changes can be prevented; the provision of adequate information and education and assignment of a community IPC coordinator may help rural communities overcome their healthcare issues[27].

The current study has some limitations. First, although its results are applicable to rural citizens in Japan, they may be incompatible with rural settings in other parts of the world. However, all rural areas have strong social norms that affect their citizens' relationships with medical professionals; therefore, this study may be referenced by researchers conducting interventions in other rural areas. Another limitation is the relationship between interviewers and interviewees. Although there were no strong relationships between them, the participants might still have felt some pressure in the interviews. That is, as the relationship between patients and physicians tends to be hierarchical, the participants might not be able to easily share their opinions or feelings about their physicians.

Conclusion

This study clarified that an educational intervention can change rural citizens' perceptions of healthcare, particularly regarding self-care and the care provided by medical professionals. Although rural citizens want to participate in healthcare activities, they do not know how to do so. Educational interventions could be useful in disseminating knowledge on healthcare and IPC. By teaching citizens to appropriately judge symptoms and construct collaborative systems, healthcare conditions in communities can be supported.

Abbreviations

IPC: interprofessional collaboration

Declarations

Ethics approval and consent to participate

Prior to conducting the study, participants were informed about the study's aims and method of data disclosure and assured that their personal information would be protected, and their data would only be used for research purposes. Subsequently, the participants provided written consent to participate. Finally, this study was approved by the Unnan City Hospital Clinical Ethics Committee (approval number: 20180032).

Consent for publication

All of the authors and participants agreed with the publication of this research.

Availability of data and material

The datasets during and/or analysed during the current study available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no conflict of interest.

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We did not accept any funding.

Authors' contributions

All authors participated in the design of the manuscript. AM was involved in drafting the manuscript for important intellectual content. All authors read and approved the final manuscript.

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References

1. Chong, W. W., Aslani, P., & Chen, T. F. (2013). Multiple perspectives on shared decision-making and interprofessional collaboration in mental healthcare. *Journal of Interprofessional Care*, 27(3), 223–230.
2. Gabrielsson, S., Looi, G. M., Zingmark, K., & Sävenstedt, S. (2014). Knowledge of the patient as decision-making power: Staff members' perceptions of interprofessional collaboration in challenging

- situations in psychiatric inpatient care. *Scandinavian Journal of Caring Sciences*, 28(4), 784–792.
3. Frosch, D. L., May, S. G., Rendle, K. A., Tietbohl, C., & Elwyn, G. (2012). Authoritarian physicians and patients' fear of being labeled 'difficult' among key obstacles to shared decision making. *Health Affairs*, 31(5), 1030–1038.
 4. Mark, L. (2009). Health literacy and the elderly. *Osteopathic Family Physician*, 1, 64–69.
 5. Legare, F., Stacey, D., Gagnon, S., et al. (2011). Validating a conceptual model for an inter-professional approach to shared decision making: A mixed methods study. *Journal of Evaluation in Clinical Practice*, 17(4), 554–564.
 6. Lie, D., Carter-Pokras, O., Braun, B., & Coleman, C. (2012). What do health literacy and cultural competence have in common? Calling for a collaborative health professional pedagogy. *Journal of Health Communications*, 17(Suppl 3), 13–22.
 7. Seo, J., Goodman, M. S., Politi, M., Blanchard, M., & Kaphingst, K. A. (2016). Effect of health literacy on decision-making preferences among medically underserved patients. *Medical Decision Making*, 36, 550–556.
 8. Asahara, K., Momose, Y., Murashima, S., Okubo, N., & Magilvy, J. K. (2001). The relationship of social norms to use of services and caregiver burden in Japan. *Journal of Nursing Scholarship*, 33(4), 375–380.
 9. Supper, I., Catala, O., Lustman, M., Chemla, C., Bourgueil, Y., & Letrilliart, L. (2015). Interprofessional collaboration in primary health care: A review of facilitators and barriers perceived by involved actors. *Journal of Public Health*, 37, 716–727.
 10. Cheong, L. H., Armour, C. L., & Bosnic-Anticevich, S. Z. (2013). Multidisciplinary collaboration in primary care: Through the eyes of patients. *Australian Journal of Primary Health*, 19(3), 190–197.
 11. Aslani, P. (2013). Patient empowerment and informed decision-making. *The International Journal of Pharmacy Practice*, 21(6), 347–348.
 12. Ohta, R., Ryu, Y., & Katsube, T. (2018). Qualitative exploration of Japanese rural citizens' consideration of terminal home care through an educational forum. *Journal of General and Family Medicine*, 19(6), 198–204.
 13. Graham, I. D., Logan, J., Harrison, M. B., et al. (2006). Lost in knowledge translation: Time for a map? *The Journal of Continuing Education in the Health Professions*, 26(1), 13–24.
 14. Eldh, A. C., Luhr, K., & Ehnfors, M. (2015). The development and initial validation of a clinical tool for patients' preferences on patient participation—The 4Ps. *Health Expectations*, 18(6), 2522–2535.

15. Luhr, K., Eldh, A. C., Nilsson, U., & Holmefur, M. (2017). Patient preferences for patient participation: Psychometric evaluation of the 4Ps tool in patients with chronic heart or lung disorders. *Nordic Journal of Nursing Research*, 38(2), 68–76.
16. Barcham, R., Silas, E., & Irie, J. (2016). Health promotion and empowerment in Henganofi District, Papua New Guinea. *Rural and Remote Health*, 16(4), 3553.
17. King, G., & Farmer, J. (2009). What older people want: Evidence from a study of remote Scottish communities. *Rural and Remote Health*, 9(2), 1166.
18. Holtedahl, K., Scheel, B. I., & Johansen, M. L. (2018). General practitioners' participation in cancer treatment in Norway. *Rural and Remote Health*, 18(2), 4276.
19. Haggerty, J. L., Pineault, R., Beaulieu, M. D., et al. (2008). Practice features associated with patient-reported accessibility, continuity, and coordination of primary health care. *Annals of Family Medicine*, 6(2), 116–123.
20. Freund, T., Campbell, S. M., Geissler, S., et al. (2013). Strategies for reducing potentially avoidable hospitalizations for ambulatory care-sensitive conditions. *Annals of Family Medicine*, 11(4), 363–370.
21. Johannessen, A. K., & Steihaug, S. (2014). The significance of professional roles in collaboration on patients' transitions from hospital to home via an intermediate unit. *Scandinavian Journal of Caring Sciences*, 28(2), 364–372.
22. Shepherd, H. L., Tattersall, M. H. N., & Butow, P. N. (2007). The context influences doctors' support of shared decision-making in cancer care. *British Journal of Cancer*, 97(1), 6–13.
23. Nomura, K., Ohno, M., Fujinuma, Y., & Ishikawa, H. (2007). Patient autonomy preferences among hypertensive outpatients in a primary care setting in Japan. *Internal Medicine*, 46(17), 1403–1408.
24. Pollard, S., Bansback, N., & Bryan, S. (2015). Physician attitudes toward shared decision making: A systematic review. *Patient Education and Counseling*, 98(9), 1046–1057.
25. Yuasa, M., Ukawa, S., Ikeno, T., & Kawabata, T. (2014). Multilevel, cross-sectional study on social capital with psychogeriatric health among older Japanese people dwelling in rural areas. *Australasian Journal on Ageing*, 33(3), E13–E19.
26. Carver, L. F., Beamish, R., Phillips, S. P., & Villeneuve, M. (2018). A scoping review: Social participation as a cornerstone of successful aging in place among rural older adults. *Geriatrics*, 3(4), 75.
27. Musinguzi, L. K., Turinawe, E. B., Rwemisisi, J.T., et al. (2017). Linking communities to formal health care providers through village health teams in rural Uganda: Lessons from linking social capital. *Human Resources for Health*, 15(1), 4.

Tables

Table 1. Demographic data of participants in each group, as well as the significance level of the comparison among the two groups

Variable	Intervention (n=154)	Control (n=121)	p-value
Gender, (male: N, %)	62 (39.7)	60 (49.6)	0.102
Age in years (M, SD)	73.7 (7.2)	68.5 (7.6)	<0.001
Primary care physician (N _{yes} , %)	141 (90.4)	89 (73.6)	<0.001
Regular visit (N _{yes} , %)	137 (87.8)	88 (72.7)	0.001
Employment (N _{yes} , %)	107 (68.6)	89 (73.6)	0.368
Self-rated health (N _{high} , %)	111 (71.2)	96 (76.8)	0.377

Note. Primary care physician: Do you have a primary care physician? Regular visit: Do you regularly visit your primary care physician? Employment: Do you have a job? Self-rated health: Do you consider yourself healthy?

Table 2. Longitudinal difference scores (changes between pretest and posttest) on the four subscales of the 4Ps questionnaire: Description and results of a comparison of groups

Outcome	Intervention (n=122)		Control (n=119)		t-value	df	p-value
	Δ posttest-pretest	SD	Δ posttest-pretest	SD			
Having dialogue with healthcare staff	0.23	1.322	0.01	0.379	1.755	239	0.081
Sharing knowledge	0.11	1.107	-0.07	0.406	1.685	239	0.093
Partaking in planning	0.3	1.149	-0.05	0.315	3.241	239	0.001
Managing self-care	0.27	0.979	0.03	0.367	2.474	239	0.003

Note. Δ posttest-pretest: difference of the scores between pre- and post-workshop

Table 3. Themes and concepts developed through direct content analysis

Theme	Concept
Ability to manage health conditions	Difficulty in judging symptoms
	Limited collaborative experience
Relationship with medical professionals	Hierarchy in healthcare
	Feeling of low self-efficacy
Relationship among citizens	Weakening connections among citizens
	Anxiety about privacy
	Cultural norms