Patient Education Tools: Using Pets to Empower Patients’ Self-care—A Pilot Study

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Abstract
Six patient education tools were designed to guide patients’ self-care by activating pets to positively impact social determinants of health. Distributed to both pet owners and primary health-care providers, each tool addressed a specific area of health and outlined a pet-related activity. Surveys questioned how participants used the tools and their impact on health and health care. Pet owners shared the tools with family and friends. Primary health-care providers used the tools to target specific health concerns. Primary health-care providers reported that working with the tools improved rapport with their patients.

Keywords
self-care, social determinants of health, patient education, communication, pets, zooeyia

Introduction
Patient education, which communicates information to patients about their health, can empower self-care (1) by increasing a patient’s confidence in their own ability to manage and improve their health (2). Effective communication encourages patients to identify individual motivators which provide social support and promote behaviors that are satisfying and enhance their self-worth (3). Pet owners value activities with their animals as rewarding, strengthening self-esteem (4).

Pets impact the health of their owners (5). The health benefits of pets (zooeyia) (6) fall into 4 categories. Pets can help build social capital, providing companionship and facilitating contact with others (7). Pets can motivate healthy lifestyle choices, such as increasing exercise and losing weight (8). Pets can catalyze harm reduction, such as stopping smoking (9). Pets can be therapeutic, aiding in the management of many conditions including depression (10), stress, and hypertension (11). The risks that pets can pose to their families include infectious zoonotic disease, injury, negative effects on the environment, and challenges to family resources—emotional, social, and financial (5).

Primary health-care providers (PHPs) are likely to have pet owners among their patients. Conversations about patients’ pets can improve communication, strengthen the therapeutic alliance, and reveal clinically relevant information. Knowing about pets in patients’ families, PHPs can mitigate risk and effectively activate pets as an existing resource to promote patient self-care (12).

With the participation of both pet owners and PHPs, this study evaluated the use of patient education tools in activating pets to positively impact social determinants of health. Specifically, we investigated whether:

- Pet owners will participate in pet-related activities described in the patient education tools in their self-care.
- Pet owners will share these tools with family and friends.

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Pet owners will show these tools to their PHP in conversations about their health. Primary health-care providers will use these tools with patients to improve communication, develop rapport, and activate the resource of pets to promote self-care.

**Materials and Methods**

The protocol for this study received Research Ethics Board approval. No information on patient health was requested or recorded.

A family physician and a veterinarian and medical educator worked with a medical writer and a graphic designer to develop 6 patient education tools. Each guided patients to include pets in their self-care (Table 1), focusing on a specific area of health:

- **Family Mosaic with Pets** is a simplified family genogram, illustrating the entire family with pets.
- **Fun Activities with Pets** can support solution-focused therapy, planning and scheduling confidence-building and rewarding activities.
- **Calming Exercises with Pets** incorporates pet interactions with mindfulness training.

- **Healthy Habits with Pets** offers relationship-centered motivation to change health-related behaviors, such as exercise.
- **Celebrating Connections with Pets** addresses building social capital and strengthening interpersonal relationships.
- **Healthier and Safer with Pets** encourages interprofessional communication within the pet owner’s circle of care.

Each tool was 2 pages in length. The first page described the significance of a pet-related activity to the owner’s health; the second page outlined the activity as it related to the multiple species people keep as pets.

Additionally, investigators used a previously developed educational brochure, including 25 references, which discussed zooeyia, zoonotic risk, and encouraged communication among all health-care providers of a pet owner’s family (12).

The study had 2 distinct arms: pet owners and PHPs. Pet owners were recruited at Canadian Pet Expo 2016 in Toronto, which attracts more than 22 000 people. Organizers provided investigators with a booth in one of 4 large exhibit halls and 2 opportunities to present the project on the main stage. Investigators and trained advocates invited visitors to the booth to take part in the study. Inclusion criteria were pet
ownership, age of 18 years or older, and access to e-mail. A formal consent form outlined the study, stipulating participants’ right to withdraw at any time, and that no potential harm had been identified. A copy of the consent form was given to each participant.

Once consent was granted, participants received one communication tool (Family Mosaic with Pets) and a copy of the educational brochure. The remaining communication tools were shown to participants, who provided their e-mail addresses. Emails were sent regularly through the fall of 2016. Each included an electronic copy of a new patient education tool, and invited participants to complete a short online survey about their experience with the tools. The survey asked whether they had reviewed the tool, whether they had shared a tool with family and friends, and whether they had discussed a tool with their PHP. They were invited to comment on the impact of the tools on their health, if any. Two reminders were sent for the final survey.

In the second arm of the study, PHPs were recruited in 2 ways. At a conference of 6 area hospitals, investigators recruited PHPs who visited a booth featuring related work (12). Additional participants were recruited at continuing medical education events in the spring of 2016. All provided written informed consent and were given a hard-copy package of the 6 patient education tools and the educational brochure. In fall 2016, they were invited to complete an online survey about their clinical experience with the tools: Which had they used in clinical practice? Did the tool improve patient-centered communication exploring determinants of health? Did reviewing these materials improve rapport and enhance the therapeutic alliance? Were they able to activate pets as a health-care resource? Were they likely to use the tools with other patients? An open question invited comments. Two reminders to complete the final survey were sent.

Results

Three hundred ninety-four pet owners joined the study; 71 (18%) completed the follow-up surveys. Patient education tools were shared by pet owners with family and friends 67 times. All tools were shared, with the most popular being Family Mosaic with Pets (31%), Fun Activities with Pets (25%), and Calming Exercises with Pets (19%). Thirty-nine (51%) pet-owning participants visited their PHP during the 6-month study. Of these, 15 (38%) gave their health-care provider the educational brochure and 33 (87%) shared communication tools. The tool most frequently shared with PHPs was Family Mosaic with Pets.

Of the 123 PHPs who joined the study, most (82; 67%) were recruited at the conference. Sixteen (13%) PHPs completed the final survey. All tools were used in practice. Seventy percent had used Healthy Habits with Pets with their patients, encouraging physical activity. Sixty percent had shared Calming Exercises with Pets, which promotes mindfulness, and Celebrating Connections with Pets, which strengthens social relationships. All other patient education tools were used by approximately 30% of PHP participants.

All PHPs indicated they would ask other patients about pets in the family, and use these communication tools with them. All PHP respondents to the final survey found the tools improved rapport and enhanced the therapeutic alliance.

Discussion

Pet owners used the patient education tools, often sharing them with family and friends. During the 6 months of the study, they were twice as likely to share with their social circle as with PHPs. The most frequently shared tools identified all their family members including the pets, enabled planning and scheduling a happy routine with their pets, and transformed calm pet-centered activities into exercises in mindfulness. These were the first 3 tools distributed to pet owners. The lower sharing rates of other tools may reflect the short period of the study.

Participants who had not shared the tools with their PHPs commented that they had not yet had a clinical visit. Those who had discussed the materials with their PHPs were more likely to have shared a patient education tool than the educational brochure. The predominant sharing of Family Mosaic with Pets indicates that patients want their PHPs to know that their family includes pets. This reflects their understanding—frequently voiced during the recruitment effort—that their pets strongly influence their well-being.

Primary health-care providers more frequently used patient education tools that directly supported a therapeutic concern: physical inactivity and obesity, stress and anxiety, and social isolation. The tools enabled PHPs to activate pets as a health-care resource within the family by defining activities that support the PHP’s plan of care. Primary health-care providers’ indication that they would continue to use the patient education tools highlights their benefit to practice. Improving rapport with patients and strengthening the therapeutic alliance can instill the confidence essential to patients’ self-care (2).

Patients can be motivated to change their health-related behaviors if they identify their own motivation and have social support, and if the behaviors are enjoyable and enhance their self-worth (3)—all characteristics of pet owners’ interactions with their companion animals (4). Both pet owners and PHPs found patient education tools useful in self-care. They are valued to the extent that they are shared with family and friends, and they contribute to patient-provider communication encouraging self-care.

Data analysis focused on percent utilization. Sample size was not adequately powered to support extensive statistical analysis. This preliminary study justifies further investigation with a larger sample and comprehensive analysis.

The next step is working with patient-provider dyads to assess their value with a more comprehensive protocol
incorporating multiple interventions. Primary health-care providers will be trained in the use of the tools and distribute hard copy and electronic versions to patients at point of care. This will enable broader exploration of clinical significance and permit health outcome analyses.

Limitations
Recruitment at booths in large exhibit halls without offering an incentive leads to lower response rates. While participation fell short of expectations in more targeted and incentivized recruitment efforts, it is consistent with studies with a similar approach to recruitment (13,14). This project experienced barriers common to effective recruitment: lack of time, lack of financial resources, and strain on human resources (15). Response rates hampered applying results to larger populations. In this pilot study, pet owners received electronic versions of the tools, which facilitated sharing. Primary health-care providers were given hard copy, which enabled their immediate implementation. Patient and provider acceptance of pet positive communication tools were assessed separately.

Conclusion
Pet-owning patients appreciate pet-related patient education tools, sharing them with family and friends. Roughly half use them to introduce discussions about pets with their health-care providers. Primary care providers prefer the tools that are directly relevant to a focused area of patient care. Pet-related patient education tools can be used to activate pets to positively impact the health of family members.

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