Published in final edited form as:

Female Pelvic Med Reconstr Surg. 2016 ; 22(6): 430–432. doi:10.1097/SPV.0000000000000305.

Patient Satisfaction With Nurse-Led Telephone Follow-Up In An Ambulatory Setting

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Abstract

OBJECTIVES—We studied our practice of using nurse telephone follow-up under physician direction to assess symptom improvement and patient satisfaction.

METHODS—Women were recruited when their clinical care merited nurse telephone follow-up in the opinion of the attending physician. Women specified a preferred phone number and completed a symptom questionnaire at the time of enrollment. Nursing phone follow-up was completed at an interval prescribed by the attending to answer specified clinical questions. Approximately three months after the initial in-office visit, a satisfaction questionnaire and repeat symptom measure were mailed to subjects.

RESULTS—A convenience sample of 83 women was analyzed. Of those, 91.6% were reached by telephone and 44.9% returned the follow-up questionnaire. Mean age was 56.8 ± 16.6 years old (mean $\pm$ SD, range 20–89 years). Younger women were less likely to be able to be contacted by phone ($p=0.02$), and less likely to return the questionnaire ($p=0.02$). Most common diagnoses were overactive bladder and mixed urinary incontinence. Satisfaction rates were high and level of convenience for patients was high. Women indicated an ease of speaking over the phone about their condition and confidence in the treatment plan. Satisfaction with telephone follow-up did not significantly differ based on age or diagnosis.

CONCLUSIONS—Patient satisfaction was high for nurse telephone follow-up to replace in-office visits for selected diagnoses. This care strategy deserves further consideration for reimbursement purposes as health care evolves.

Keywords

nursing; telephone follow-up; ambulatory care

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None of the authors has any relevant conflicts of interest.

This paper was presented as an oral poster at PFD Week, the annual scientific meeting of the American Urogynecology Society, in Seattle, WA, in October 2015.

This paper was approved by the Institutional Review Board at the University of Michigan (HUM00064271).

This was an unfunded study.

INTRODUCTION

Nurse-led follow-up clinics are an established model in several fields of medicine, including cardiology and oncology clinics. A prior randomized control trial demonstrated that women with urinary incontinence treated by either a nurse continence advisor or a urogynecologist physician had similar 12-week and 2-year objective and quality-of-life outcomes but yet lower cost of treatment with nurse care.¹ In general, these nurse-led clinics seem to be a cost-effective and efficient model for follow-up of chronic conditions such as pelvic floor disorders while maintaining patient satisfaction.

As many of our patients are elderly and/or live remote from our clinic site, subsequent clinic visits impart significant hardship on them and their caregivers. Thus, we have replaced the model of nurse-led clinics in favor of telephone follow-up calls. Telephone follow-up for some clinical conditions may be able to replace in-office return visits, saving the patient time and money while preserving clinician office time for new patients, emergencies or those with other diagnoses.

We studied our practice of using nurse telephone follow-up under physician direction to assess symptom improvement and patient satisfaction.

MATERIALS AND METHODS

After Institutional Review Board approval, women were prospectively recruited into the Telephone Urogynecology Clinic follow-up 'Kare' (TUCK) study when their clinical care merited nurse telephone follow-up in the opinion of the attending physician. Examples of this included the need for prescribed medication follow-up, post-physical therapy symptom assessment, and efficacy of recommended bowel regimens. Exclusion criteria included need for in-office follow-up, definite plan to schedule surgery, lack of a telephone number, and inability to read/answer study questionnaires in English. Timing of the follow-up call was determined at the time of the enrollment visit and varied based on the clinical scenario. Women specified a preferred phone number and completed a symptom questionnaire at the time of enrollment. Symptoms were measured using the Pelvic Floor Distress Inventory-20 (PFDI-20), a validated questionnaire that evaluates pelvic organ prolapse, colorectal-anal and urinary distress and their level of bother.²

Nursing phone follow-up was conducted by a dedicated, experienced registered nurse and was completed at an interval prescribed by the faculty attending to answer specified clinical questions. The chart note from the enrollment visit served to prescribe care and intent of the phone call. When needed, additional follow-up calls, prescription changes based on physician direction, and office visits could be offered. If the clinical situation merited, interaction with the physician further directed care. This was at nursing discretion although all notes detailing the phone call were reviewed by the attending using the electronic medical record.

Approximately three months after the initial in-office visit, a 10-question Likert-scale satisfaction questionnaire modified from an earlier study on telephone follow-up (Appendix

1) and repeat PFDI-20 symptom measure were mailed to patients along with a postage-paid return envelope.³ Patient satisfaction was considered to be the primary outcome of interest.

Statistical analysis was performed using IBM SPSS Statistics Version 22 (IBM Corporation, Armonk, NY, USA). Normality of data distribution was assessed via Shapiro-Wilk tests. Continuous variables were assessed with Student's t or Mann-Whitney U tests, as appropriate. Categorical variables were compared using Fisher's exact test. Comparisons of PFDI-20 and subscale scores from initial and subsequent questionnaires were performed using Wilcoxon signed rank tests. Statistical significance was set at $p < 0.05$.

RESULTS

A convenience sample of 87 women was enrolled in the study from February–December 2014. Three women ultimately underwent surgery during the study time and were excluded as that intervention changed follow-up needs. One woman died of a brain hemorrhage after enrollment. Of those remaining, 76/83 (91.6%) women could be reached by telephone and 39/87 (44.9%) returned the follow-up questionnaire. Mean age was 56.8 ± 16.6 years old (mean $\pm$ SD, range 20–89 years). Mean length of time to follow-up call after the in-office visit was 50.9 ± 29.2 days (mean $\pm$ SD, range 3–140 days). Nursing time required for these calls was about 3 hours/week and 10–25 minutes/call.

Women who were able to be reached by telephone were significantly older than those who were not contacted by a phone call ($p = 0.02$). Similarly, the patients who returned their questionnaires were significantly older than those who did not return the survey ($p = 0.02$).

Diagnoses of enrolled women are listed in Table 1; subjects could have more than one diagnosis. Most patients had lower urinary tract symptoms (66/83, 75.9%) as their reason for follow-up, while 20.7% ($n = 18$) had some form of pain diagnosis. There were no significant differences between diagnoses for women who could be reached by phone or who returned the follow-up questionnaire.

In general, the number of follow-up visits among all women in the study was low. There was no significant difference in number of follow-up visits between women who could be reached by phone (median 0, range 0–2, $n = 76$) and those who were not (median 0, range 0, $n = 7$, $p = 0.15$). The number of post-enrollment visits also did not differ based on diagnosis.

Of the 39 women who returned the questionnaire by mail, 91.2% of women expressed satisfaction with telephone follow-up. Most women (90.9%, $n = 30$) were happy with the timing of the nurse call, and 87.9% indicated clear understanding of the plan and knew what to do moving forward after the call. Most women would recommend this regimen to a friend (80.0%), and all found it more convenient than an office visit (100%). Women indicated an ease of speaking over the phone about their medications and getting their questions answered. There was no difference based on age for any of the 10 satisfaction questions. Overall satisfaction with telephone follow-up (question 10) did not significantly differ based on diagnosis, although there was a trend for patients with dyspareunia to be somewhat less satisfied ($p = 0.10$).

Using the PFDI-20 scores completed at enrollment compared to those returned by mail, there were no significant differences between those two time points (Table 2). There was also no difference between patients based on successful phone contact. Barber, et al., suggest that the Minimal Clinically Important Difference (MCID) for PFDI-20 is 45 point reduction (“clinically improved”).⁴ Of the 38 women for whom we have PFDI-20 scores from both the initial and follow-up questionnaires, 15.8% (n = 6) had such improvement. However, of all the initial questionnaires received, 76.2% (64/84) had a PFDI-20 score 45, and of the subjects for whom we have both questionnaires, only 71.1% (27/38) had a score 45. If we presume that only this group is eligible to have “clinical improvement,” then we had 22.2% of women (6/27) improve enough to meet the MCID.

DISCUSSION

Patient satisfaction was high for nurse telephone follow-up under physician direction to replace in-office visits for selected diagnoses. Our satisfaction rate is even higher than in some previously published work.³ This care strategy deserves further consideration for reimbursement purposes as health care evolves, as currently insurance coverage of available billing codes is inconsistent and use of them may result in direct-to-patient charges.

Patients with a diagnosis of dyspareunia trended toward being less satisfied with this approach in this small sample. These patients may benefit from scheduled office visits.

Like in our study, phone follow-up as a model has been demonstrated to be effective in patients with other chronic conditions such as prostate cancer, congestive heart failure, and fecal incontinence.^{5,6,7} In a phone-based weight loss maintenance intervention amongst adults who had recently lost weight, one study demonstrated that phone follow-up promoted weight loss maintenance.⁸ Patients did better in the guided group compared to self-directed participation. Nursing phone follow-up has also been demonstrated to decrease the need for office visits following anterior colporrhaphy surgery.⁹

Telemedicine has also been shown to have negative effects on health. In a randomized trial of patients with chronic obstructive pulmonary disease (COPD), patients who received care during traditional outpatient visits did better than those who received care via telemedicine appointments using condition-specific health measures, number of office visits, and number of COPD exacerbations.¹⁰ The severity of COPD compared to quality-of-life concerns such as lower urinary tract symptoms may explain the differences between this study and our results, particularly with regard to number of office visits.

As health care and payment models evolve, more patient care will likely be provided in the ambulatory setting compared to inpatient, and at home more than in the office. Technological innovations are already making this a reality, and this study provides support for this revolution. However, when it replaces office visits, payment for nursing time will be a new need in already-burdened offices facing reimbursement reductions. Current models of telephone care, even by physicians, are imperfect as they can result in direct-to-patient charges after insurance rejection of those codes. Other models of nursing phone care have been inconsistently successful based on the whether the diagnosis is deemed to be “chronic”

by an insurance company. While there are always state-by-state, practice-model and insurance-carrier variations in billing that limit a more specific discussion of this topic, providers should remain aware of advocacy opportunities.

The strengths of this study include its use in a busy, referral-based practice at a tertiary care center. Physician collaboration with an experienced nurse permitted patient care even outside of strict protocols such as commonly exist for urinary tract infection management and similar simple conditions. The 45% response rate to our mailed survey is high, possibly because we used first-class outbound mail and included a postage-paid return envelope.¹¹ Limitations of this study include small enrollment numbers and visit numbers overall, which limited our ability to discriminate differences in treatment success. Generally all patients improved between our two time points, and identifying a significant difference for the telephone patients was challenging with these small numbers.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Diagnoses of enrolled patients based on follow-up needs; patients could have multiple diagnoses

Diagnosis	Incidence
Overactive bladder/Lower Urinary Tract Symptoms	57.5% (n=50)
Mixed urinary incontinence	18.4% (n=16)
Vaginal pain/dyspareunia	16.1% (n=14)
Bladder pain	4.6% (n=4)
Urinary retention	2.3% (n=2)
Bowel conditions	3.4% (n=3)
Pelvic organ prolapse	3.4% (n=3)
Other	2.3% (n=2)

Table 2

PFDI-20 scores at time of enrollment and for those who returned the symptom questionnaires

	POPDI-6 (n = 84)	CRADI-8 (n = 79)	UDI-6 (n = 81)	PFDI-20 (n = 84)
Median (IQR; Range)	23 (0, 38; 0 – 95)	13 (3, 34; 0 – 63)	38 (25, 54; 0 – 100)	71 (45, 112; 0 – 208)
	POPDI-6 (n = 39)	CRADI-8 (n = 38)	UDI-6 (n = 39)	PFDI-20 (n = 39)
3 months [Median (IQR; Range)]	8 (0, 33; 0 – 90)	13 (0, 29; 0 – 63)	29 (8, 50; 0 – 100)	54 (17, 103; 0 – 190)
Change from initial to final score (p value)	0.62	0.83	0.33	0.54