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ORIGINAL ARTICLE

Comparison between Face-to-Face and Telephone DASH Interviews in Hand Patients: A Prospective Comparative Study*

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ABSTRACT

Background. The Filipino version of the Disabilities of the Arm, Shoulder, and Hand Questionnaire (FIL-DASH) is a patient-reported outcome measure validated for assessment during a face-to-face consult. When in-person consults are not feasible, such as during periods of lockdown or geographical limitations, patient outcomes should still be measured accurately.

Objective. To compare the Filipino Disabilities of the Arm, Shoulder, and Hand (FIL-DASH) scores of patients with hand disorders during face-to-face and telephone interviews.

Methodology. This was a pilot prospective comparative study. Patients aged 18 to 60 years with various chronic hand and upper extremity conditions seen at the Hand and Microvascular Surgery outpatient department of the Philippine General Hospital had face-to-face FIL-DASH interviews conducted by a trained interviewer. The same interviewer conducted a telephone FIL-DASH interview on these same patients after seven days. Survey information was collected and encoded using an electronic spreadsheet file. Descriptive statistics such as mean, median, frequency, and percentage were used to describe the clinical characteristics of the study participants. A paired t-test or Wilcoxon signed-rank test was used to compare the mean FIL-DASH scores between face-to-face and telephone modes. The Pearson correlation coefficient (r) was used to determine the relationship of the FIL-DASH scores obtained from face-to-face and telephone interviews.

Result. There were 79 respondents included in the study. The FIL-DASH scores from telephone interviews were significantly lower than the scores from face-to-face consults. Pearson's correlation coefficient was estimated to be 0.96, with a range of 0.94–0.98 (p <0.01). This showed a strong, positive relationship between FIL-DASH measured in both modes with a high correlation coefficient.

Conclusion. Despite FIL-dash scores from telephone interviews being lower, the study showed a strong correlation between the face-to-face and telephone FIL-DASH scores. This supports the use of the assessment of the FIL-DASH via telephone interview.

Keywords. patient reported outcome measures, telephone visits, interview, telehealth, quality improvement

INTRODUCTION

The goal of hand and upper extremity surgery is to restore hand function. The success of any such endeavor is determined by measuring the post-treatment functional status of the upper extremity.

One of the frequently used scoring methods is the DASH or Disabilities of the Arm, Shoulder, and Hand Questionnaire, which is a 30-item questionnaire concerning the upper extremity function of the patient during the preceding week.[1] A higher score indicates higher disability, with 0 being the minimum and 100 being the maximum score. This questionnaire has been translated and cross-culturally adapted into different languages, including Filipino (FIL-DASH).[2]

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The DASH is accomplished by an interviewer during a face-to-face consultation with a patient. Previously taken for granted, this limitation was highlighted during the COVID-19 pandemic, when physical clinic visits were restricted. In a tertiary public hospital like ours, patients may come from faraway provinces. Regular consults to monitor functional outcomes may become costly.

Although no prior studies have been done to compare face-to-face and telephone FIL-DASH scoring, other measurement tools have been studied.

Bossers et al. compared face-to-face and telephone scoring for patients with traumatic brain injury using the Extended Glasgow Outcome Scoring.[3] When they compared the scores obtained in face-to-face interviews done by a neurologist with those obtained from a telephone interview two weeks later, they concluded that telephone assessment was a valid alternative to the face-to-face interview when in-person contact is not feasible. Pettigrew et al. found good test-retest and interrater reliability for the structured interviews for the Glasgow Outcome Scale (GOS) using in-person and telephone contact.[4]

Hammarstedt et al. evaluated outcomes using five different tools in 456 patients two years after arthroscopic acetabular labral surgeries and found higher scores (indicating greater improvement) in telephone surveys compared to those obtained in-person or online.[5]

Based on the response of 432 patients in three specialty clinic practices in the University of California in San Francisco, telephone follow-up visits (TFVs) were seen to offer a cost and time-efficient alternative to in-person visits. And the survey done showed the TFVs to be acceptable to the patients.[6]

With today's widespread use of personal digital technology, tablets and smartphones have likewise been used to collect patient outcome information. Pang et al. found that 136 patients in a foot and ankle clinic who completed a patient-reported outcome tool on a tablet while in the clinic and on their own smartphones 24 hours later had consistent scores.[7]

Scwartzenberger et al. studied 969 patients who were asked to complete the long-term Boston Carpal Tunnel Questionnaire (BCTQ) at least one year after carpal tunnel release surgery. Patients asked to complete the BCTQ through telephone interview had a higher response rate and survey completeness as compared to those who answered the BCTQ through standard mail or web-based methods.[8] Wilkinson et al., showed that outcome measurement in patients more than one year after hand surgery was more reliable when taken over the telephone than the computer.[9]

This study sought to determine if the Filipino DASH Score (FIL-DASH) assessed through the telephone is as reliable as the FIL-DASH assessed in person.

METHODOLOGY

Over a period of two months, patients aged 18 to 60 years with chronic hand and upper extremity conditions (those who were symptomatic for at least three months before the interview) seen at the Hand and Microvascular Surgery Outpatient Department of the Philippine General Hospital, Manila, Philippines, were invited to participate in the study, and those who gave consent were included. Patients aged younger than 17 years and older than 61 years and patients immobilized in casts or splints were excluded. The intended sample size was 110 patients.

The face-to-face FIL-DASH interviews were conducted by a trained interviewer. No questionnaires were brought home by the patients. The same interviewer conducted a telephone FIL-DASH interview after seven days. Findings were recorded via the FIL-DASH form downloaded from the website of the Institute for Work and Health. The survey information was collected and encoded in an electronic spreadsheet.

Descriptive statistics such as mean, median, frequency, and percentage were used to describe the clinical characteristics of the study participants. The paired t-test was used to compare the face-to-face and telephone FIL-DASH ratings.

In this study, the consistency of the FIL-DASH Scores from face-to-face and telephone interviews were determined using the Pearson correlation coefficient,[10] where a score closer to one (1) indicates a direct correlation of the scores obtained using the two methods, a score closer to negative 1 (-1) indicates an inverse correlation, whereas a score closer to zero (0) indicates no relationship. For individual comparisons (not between groups), a score of .90 would be acceptable. The *p*-value was set at <0.01 to determine significance.

The study was approved by the institution's Ethical Review Board.

RESULT

The study included 79 patients (Table 1).

The face-to-face and telephone FIL-DASH scores of the 79 patients were plotted on a scatterplot (Figure 1). Most data points clustered near the line of equality, suggesting that telephone assessments reliably reflect in-person scores. A few outliers were noted, which may reflect individual variability or scoring discrepancies.

The mean FIL-DASH rating was significantly lower during telephone consults than during face-to-face consults (Table 2). Using the face-to-face and telephone FIL-DASH scores of the 79 patients included in the study, the Pearson's Correlation Coefficient was estimated to be 0.96, with a range of 0.94–0.98 (p <0.01). As it was greater than the recommended score of 0.90, this showed a strong, positive relationship between the scores measured in both modes.

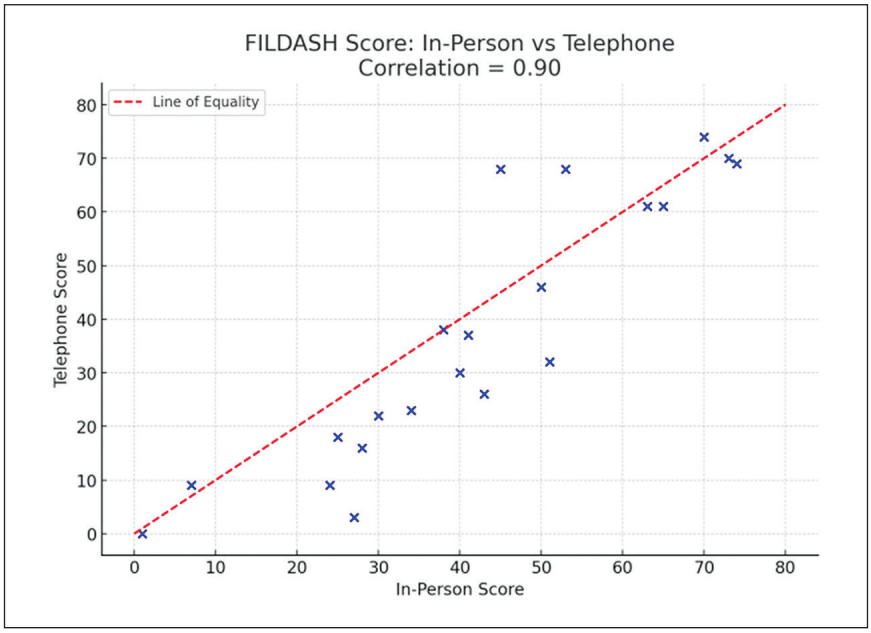

Figure 1. Scatterplot comparing FIL-DASH SCORES.

Table 1. Demographic profile of respondents

Demographic information	Summary measures
Age in years	41.32 ± 13.58
18 to 20	4 (5.06%)
21 to 40	34 (43.04%)
41 to 60	41 (51.9%)
Sex	
Male	38 (48.10%)
Female	41 (51.90%)
Diagnosis	
Acrodactyly	1 (1.27%)
Arthritis	7 (8.86%)
Brachial plexus injury	21 (26.58%)
Chronic regional pain syndrome	1 (1.27%)
Carpal tunnel syndrome	7 (8.86%)
Contractures	4 (5.06%)
Cyst or mass	12 (15.19%)
De Quervain tendosynovitis	3 (3.80%)
Chronic dislocation	3 (3.80%)
Malunion	3 (3.80%)
Nerve palsy	2 (2.53%)
Nonunion	2 (2.53%)
Chronic tendon transection	2 (2.53%)
Trigger finger	11 (13.92%)

Table 2. Distribution of Fil-DASH responses

Descriptive measures	Face-to-face	Telephone	*p*-value
Mean ± Std. deviation	36.76 ± 26.19	33.53 ± 26.52	<0.01*
Median (minimum, maximum) (25^{th}, 75^{th})	36 (0, 94) (14, 57)	30 (0, 91) (9, 58)	<0.01*

DISCUSSION

Telephone interviews are often used for patient assessments in healthcare, counseling, and customer service. It allows for convenient and accessible assessment without the need for face-to-face interaction.

DASH scores are typically evaluated in person. Nevertheless, the challenges posed by the COVID-19 pandemic made clinic visits difficult. Telephone DASH Score evaluation has become an attractive alternative.

We projected that 110 patients would be seen in the outpatient department over the two months that this study was conducted. However, only 79 patients were enrolled in the study. This was attributed to the low patient turnout during the study period because of the numerous non-working holidays during this period. This could have decreased the study's statistical power, increasing the possibility of a type II error. We chose to simplify the analysis by comparing the DASH scores obtained from the two methods. Doing this, the results were still shown to be statistically significant (p <0.01)

The FIL-DASH scores obtained during the telephone interview were significantly lower than those obtained during the in-person consult.

Like Hammarstedt's[5] and unlike Bosser's and Pettigrew's findings,[3,4] the FIL-DASH scores obtained during the telephone interview were significantly lower (indicating less disability) compared to those obtained during the in-person interview. Hammerstedt attributed this to confounding variables such as interview bias (non-verbal cues from the interviewer, which may alter the response). Time may have also played a role. Our telephone interviews were done seven days

after the face-to-face assessment, during which time patients' conditions may have improved.

Pearson's Correlation Coefficient showed a strong, positive relationship between the FIL-DASH scores measured in both modes, indicating a strong linear relationship. While FIL-DASH scores were, on average, lower over the phone than in person, patients with low scores were still likely to score low, and vice versa.

Interestingly, several patients reported higher disability via telephone than during in-person interviews. This pattern, also noted in other studies, may reflect the influence of social desirability bias—a psychological tendency where respondents give more favorable answers when not directly observed. In telephone interviews, reduced face-to-face interaction may lead individuals to underreport difficulties or overstate functional ability. Despite this, the overall findings indicate that telephone administration of the FIL-DASH is a valid alternative when in-person assessments are impractical, though slight positive bias should be considered in interpretation.

Although in-person and telephone interview FIL-DASH scoring might not be used interchangeably in the same patient during treatment and recovery, a patient's scores may be reliably monitored using one or the other method. The trend of the FIL-DASH scores obtained over the course of a patient's recovery can help determine whether a patient is returning to previous function. Likewise, telephone FIL-DASH scores may be used to compare the outcomes of different treatment modalities for conditions of the hand and upper extremity.

This is good news considering the benefits of foregoing clinic visits just to monitor subjective outcomes.[6] Although web-based scoring is already in use,[7] telephone interviews are still considered better.[8,9]

These findings must be interpreted with caution. The telephone format introduces unique limitations that may inadvertently affect outcomes. Distractions in the home environment, varying levels of privacy, auditory or technological issues, and reduced interpersonal engagement can all influence how patients understand and respond to questions. Unlike face-to-face interviews, where nonverbal cues and immediate clarification are available, telephone assessments rely heavily on verbal communication alone, which may compromise the depth or accuracy of responses in certain cases.

This study was conducted in a single institution and employed convenience sampling with no randomization. The face-to-face interview always came before the telephone interview. The study did not reach the target sample size of 110 due to multiple nonworking holidays and a relatively short duration. This may have also produced more variable results and potentially higher *p*-values, leading to weaker external validity. This potentially increases the variability of FIL-DASH scores of both face-to-face and phone consults, thereby decreasing the overall significance and reliability of the results.

We recommend future studies to include a longer duration of data collection, a larger sample size, and multiple data collection sites.

CONCLUSION

Despite FIL-DASH scores from telephone interviews being lower, the study showed a strong correlation between the face-to-face and telephone FIL-DASH scores. This supports the use of telephone interviews to assess FIL-DASH.

STATEMENT OF AUTHORSHIP

All authors certified fulfillment of ICMJE authorship criteria.

CREDIT AUTHOR STATEMENT

ETT: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data Curation, Writing – original draft preparation, Writing – review and editing; **JMB:** Conceptualization, Methodology, Validation, Formal analysis, Resources, Writing – review and editing, Visualization, Supervision, Project administration.

DATA AVAILABILITY STATEMENT

Datasets generated and analyzed are included in the published article.

AUTHOR DISCLOSURE

The authors declared no conflict of interest.

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None.

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SUPPLEMENTARY DATA

Face-to-face and telephone FIL-DASH scores of respondents

Patient no.	FIL-DASH score (face-to-face)	FIL-DASH score (telephone)
1	7	9
2	30	22
3	40	30
4	27	3
5	63	61
6	74	69
7	45	68
8	73	70
9	50	46
10	53	68
11	34	23
12	1	0
13	51	32
14	43	26
15	28	16
16	24	9
17	38	38
18	65	61
19	70	74
20	41	37
21	25	18
22	31	21
23	42	37
24	48	36
25	29	24
26	0	0
27	25	19
28	7	5
29	58	58
30	6	6
31	66	62
32	33	28
33	36	32
34	26	19
35	75	85
36	41	41
37	8	8
38	59	54
39	5	5
40	9	6

Patient no.	FIL-DASH score (face-to-face)	FIL-DASH score (telephone)
41	89	89
42	78	78
43	16	13
44	62	62
45	10	9
46	88	68
47	47	49
48	37	43
49	24	12
50	44	34
51	0	0
52	36	36
53	33	33
54	64	64
55	14	13
56	44	33
57	5	5
58	84	64
59	0	0
60	74	74
61	26	26
62	28	30
63	7	7
64	15	12
65	2	0
55	23	23
67	82	82
68	78	77
69	94	91
70	15	13
71	47	38
72	5	3
73	2	2
74	0	0
75	0	0
76	47	45
77	57	55
78	41	40
79	0	0