Written Educational Material Relieves Anxiety after Endoscopic Biopsy: A Prospective Randomized Controlled Study

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Background/Aims: Patients who undergo endoscopic biopsy suffer anxiety until results are confirmed. This study assesses the effects of written educational material on the anxiety level of patients following endoscopic biopsy.

Methods: This study was a randomized controlled study trial with 83 patients divided into the following three groups: a biopsy group given written educational material prepared by our institution following the biopsy (intervention group, n=28), a biopsy group without written material (biopsy only group, n=25), and a control group without biopsy (control group, n=30). The anxiety level of each patient was evaluated three times using Spielberger’s State-Trait Anxiety Inventory (STAI): for baseline at the first visit to our institution, at the day of endoscopy, one day later, and one week after the procedure. We compared baseline characteristics, STAI scores at each visit, and differences in STAI scores among the three groups.

Results: No difference was found in STAI score among groups at baseline and before and after the endoscopic procedure. However, the STAI-state score of the intervention group was slightly lower than biopsy only group one day post-procedure (40.3±7.7 vs. 43.9±7.1, p=0.135). The STAI-state score significantly decreased from pre- to post-procedure only in the intervention group (-2.75±6.1 vs. 0.92±4.0, p<0.027).

Conclusions: Use of written educational material for patients having biopsy might lessen their anxiety level. (Korean J Gastroenterol 2016;67:92-97)

Key Words: Patient education handout; Biopsy; Test anxiety scale

INTRODUCTION

Endoscopic procedures are commonly performed because they afford an exact diagnosis and guidance regarding proper therapeutic intervention. However, they often give rise to anxiety and stress in patients. Diagnostic gastroscopy and colonoscopy are strongly associated with increases in anxiety. Maguire et al. reported the following reasons for increases in anxiety in patients before endoscopy: (1) fear of procedure-related pain, (2) fear of disease which may be diagnosed, (3) fear of the procedure itself because of insufficient sedation and information, and (4) fear of doctors and other people watching the operation. Many approaches have been tried to lessen patients’ anxiety during gastro-
scopy or colonoscopy, including therapeutic conversation
and touch, aromatherapy and music.4,5 In our experience, pa-
tients who underwent biopsy during their gastroscopy or colo-
noscopy felt more anxiety until they knew the exact diagnosis
than patients who did not have a biopsy during the diagnostic
procedure. Educating patients about gastroscopy or colonos-
copy in advance of the procedure, with written educational
material or oral explanation, reduces patients’ anxiety.6
However, there is a lack of research about the effects on pa-
tients’ anxiety of providing written educational material after
biopsy during gastroscopy or colonoscopy.

There are several methods for evaluating the anxiety of pa-
tients who undergo endoscopic procedure, including the
Spielberger’s State-Trait Anxiety Inventory (STAI), Hospital
Anxiety and Depression Scale, and the Visual Analog Scale.7
In this study, we used the Korean version of STAI8 to examine
the effects of providing written educational material on the
anxiety level of patients who underwent biopsy during gastro-
scopy or colonoscopy.

SUBJECTS AND METHODS

1. Subjects

We conducted a randomized controlled trial to evaluate
the effects of written educational materials on patients’
anxiety. This study included patients who were scheduled for
elective gastroscopy or colonoscopy at Gangnam Severance
Hospital, Seoul, Korea, between January 2011 and December
2012. The inclusion criteria for this study were as follows: age
between 18 and 75 years, no history of any overt or borderline
psychiatric disease, not using psychotropic drugs, able to
read and comprehend the details of the study in the patient
information sheet, and agreed to participate in this study.
Written informed consent was obtained from each partici-
pant. This study was approved by the Ethics Committee of the
Gangnam Severance Hospital, Yonsei University College of
Medicine (IRB number: 3-2011-0087).

2. Randomization and study design

A single study physician performed the randomization
process, using a computer-generated randomization table.
One hundred thirty-six patients were randomly assigned to
one of following three groups: the control group, comprised
of patients who underwent diagnostic gastroscopy or colono-
scopy; the biopsy only group, comprised of patients who un-
derwent biopsy during gastroscopy or colonoscopy and were
not provided written educational material; and the inter-
vention group, comprised of patients who underwent biopsy
during gastroscopy or colonoscopy and were provided written
educational material. Thirty-one patients (22.8%) were ex-
cluded from the study because of incomplete questionnaires
and lost records, and 22 patients (16.2%) did not participate
after the procedure. Eighty-three patients completed the en-
tire study protocol as randomized to the three groups: the