

# Determinants of Quality of Life in Individuals With a Dual Diagnosis of Resectable Pancreatic Cancer and Diabetes Mellitus

Hsuan-Ju Kuo, MSN, RN, Nien-Tzu Chang, RN, PhD, Yu-Wen Tien, MD, PhD,  
Yun-Jen Chou, RN, PhD, and Shio-Ching Shun, RN, PhD

**OBJECTIVES:** To explore the associations among clinical characteristics, fatigue, diabetes mellitus (DM) self-care activities, and quality of life (QOL) in individuals with resectable pancreatic cancer and DM.

**SAMPLE & SETTING:** 57 individuals with resectable pancreatic cancer and DM from an outpatient pancreatic surgical department in Taiwan were included in the final analysis.

**METHODS & VARIABLES:** A cross-sectional, correlational design was used. QOL, fatigue, and DM self-care were measured by the European Organisation for Research and Treatment of Cancer QOL Questionnaire–Core 30, the Fatigue Symptom Inventory, and the Summary of Diabetes Self-Care Activities.

**RESULTS:** Participants who had a shorter duration of DM and higher levels of fatigue (including intensity, duration, and interference) reported lower QOL scores. Participants who performed more DM self-care activities and physical activity per week had higher QOL scores. Fatigue, DM self-care activities, and DM duration were significant factors related to QOL.

**IMPLICATIONS FOR NURSING:** Shorter DM duration, increased fatigue, and fewer DM self-care activities were determinants of worse QOL in individuals with resectable pancreatic cancer and DM.

**KEYWORDS** diabetes mellitus; diabetes self-care; fatigue; pancreatic cancer; quality of life

**ONF, 48(4), 390–402.**

**DOI** 10.1188/21.ONF.390-402

Cancer and diabetes mellitus (DM) are common and serious chronic diseases that affect health-related outcomes worldwide (World Health Organization, 2020, 2021). As compared to other common cancers (e.g., lung, breast, colorectal), individuals with pancreatic cancer have a significantly higher prevalence of DM (68%) (Aggarwal et al., 2013). One of the treatment options for pancreatic cancer is pancreaticoduodenectomy (PD) (Puckett & Garfield, 2020). In patients who have undergone PD for pancreatic or ampullary cancer, about 12%–54% experience DM (Beger et al., 2018; Eom et al., 2013). In patients post-total pancreatectomy for cancer, 100% experience DM (Juel et al., 2021; Maeda & Hanazaki, 2011). The high prevalence of DM among individuals with pancreatic cancer can result in worse patient-reported outcomes and increase the burden on the healthcare system. In addition, with advancements in pancreatic surgery techniques and postoperative health care, individuals with resectable pancreatic malignancies have an increased chance of living longer (Zhang et al., 2016). Understanding the links among patients' perceived quality of life (QOL), the concurrent burden of pancreatic cancer (e.g., symptoms), and DM (e.g., daily self-care) is essential.

QOL is an individual's perceived physical, psychological, and social well-being (Yao, 2002). Studies have shown that individuals with pancreatic cancer have worse QOL as compared to healthy adults and individuals with other types of cancer (Bauer et al., 2018; Wong et al., 2020). Although individuals with pancreatic or periampullary cancer postresection have reported comparable QOL to those who have had surgery for benign pancreatic tumors (Fong et