

[Taiwan]

Factors Influencing the Willingness of Colorectal Cancer Screening Among Adults Between 50–69 Years of Age in Taiwan

Shao-Yi CHENG,*¹ Ming-Been LEE*²

Colorectal cancer has the highest incidence rate among all other cancers in Taiwan and the number is still increasing. The Bureau of Health has implemented the nationwide cancer screening program since 2010, however; only 33% of the eligible population completed the screening in the year 2010–2011. Due to the low participation rate, we aimed to determine the factors influencing the willingness of colorectal cancer screening (CRC screening) in the population among 50–69 years old of age in Taiwan by using the large scale telephone survey. Simultaneously, the study investigated the relationship between demographics, health believe factors, health behavior and other CRC screening behaviors. According to literature review and the results from focus groups (healthcare professionals and volunteers), the study applied a questionnaire which listed some important influencing factors related to Immunochemical Fecal Occult Blood Test (iFOBT), and then, we invited 3 professionals with public health, medicine and survey expertise to modify


the questionnaire. Finally, we conducted a large-scale population interview through random-digital telephone from Sept 14 to Oct 1, 2012. We completed 3,001 interviews, among them, 61% were females, age layers of 50–59 and 60–69 were both accounted for 50%, the results revealed 60% of people who had ever taken iFOBT in the past year and 74% are willing to take it in the future. In demographics, including gender, age, education level, job, marital status and living area were all related to CRC screening willingness. In addition, the health believe model (except self-efficacy), the awareness of CRC screening, participation in other cancer screening, CRC screening accessibility in healthcare organizations were also positively related to CRC screening willingness. We conclude the study investigated many factors influencing the willingness of CRC screening in adult population among 50–69 years of age, to serve as a reference for the government for policy making to enhance the cancer screening in Taiwan in the future.

*1 Department of Family Medicine, National Taiwan University Hospital. Taiwan Medical Association, Taipei, Taiwan, R.O.C. (intl@tma.tw).

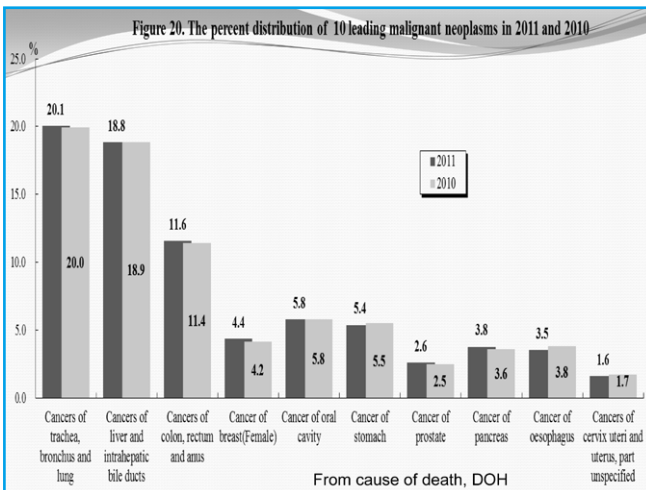
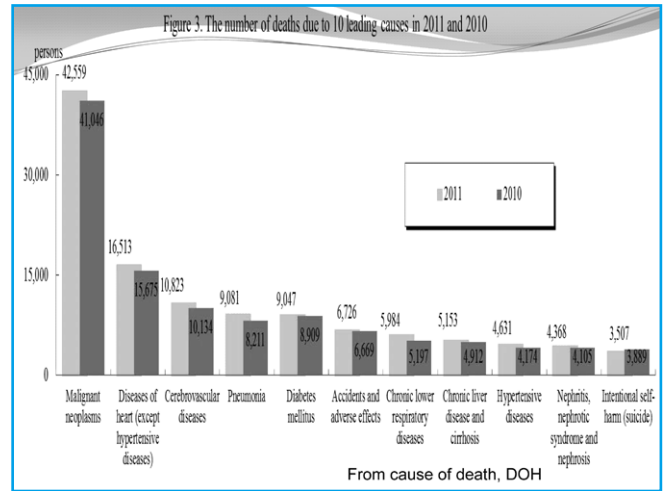
*2 President, Taiwan Medical Association, Taipei, Taiwan, R.O.C. (mingbeen@ntu.edu.tw). Professor of Psychiatry, National Taiwan University Hospital and College of Medicine. President of Taiwanese Society of Suicidology. Director of Taiwan Suicide Prevention Center.

This article is based on a presentation made at the Symposium "Current Management of Malignant Diseases in the Asian and Oceania Regions" held at the 48th CMAAO Mid-term Council, Macau, China, on November 10, 2012.

Factors influencing the willingness of colorectal cancer screening among adults between 50 to 69 years of age in Taiwan



Dr. Shao-Yi Cheng, MD, MSc, DrPH/Ming-Been LEE, MD
Department of Family Medicine/Department of Psychiatry,
National Taiwan University Hospital
Taiwan Medical Association



Current cancer screening policy in Taiwan

Item	Qualification
iFOBT	50-69 y/o, once every two years
Pap smear	Women older than 30, once every year
Mammography	45-69 y/o, once every two years 40-44 y/o, once every two years with family history of breast cancer
Oral cancer screening	People older than 30 y/o, with smoking or betel nut chewing habits.

Outline

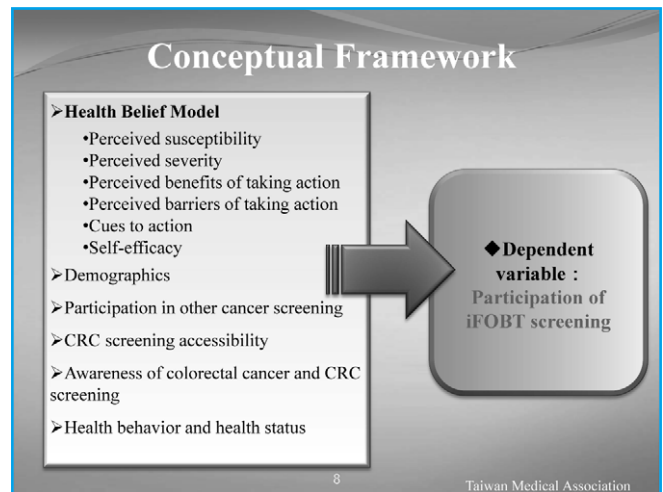
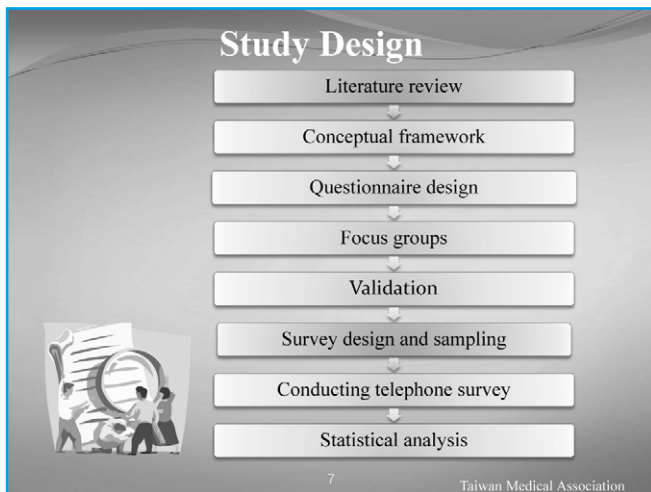
- 1 • Background and study rationale
- 2 • Study design
- 3 • Questionnaire design and telephone survey
- 4 • Preliminary result
- 5 • Conclusion and recommendations
- 6 • Further study

5 Taiwan Medical Association

Background and study rationale

- ◆ Colorectal cancer (CRC) incidence was rated No 1 and mortality No 3 among all cancers from 2010 Department of Health (DOH) statistics in Taiwan.
- ◆ Since 2004, the Bureau Health Promotion, DOH, Taiwan, started to provide the Immunochemical Fecal Occult Blood Test (iFOBT) to adults between 50-69 years old of age every other year.
- ◆ Only 33% among those who are eligible took the test from 2010 to 2011.
- ◆ By using the large scale telephone survey, the study aims to determine the factors influencing the willingness of colon cancer screening in this population.

6 Taiwan Medical Association



Questionnaire Design

Design of questionnaire : focus groups

- Healthcare professionals : Physicians, nurses and case managers (N= 7) from different healthcare settings in north Taiwan (Keelung, Taoyuan, New Taipei City, Taipei).
- Volunteers : 8 people from north Taiwan, with balanced gender and past CRC screening experience distribution.

9 Taiwan Medical Association

Questionnaire design

Questionnaire Validity : content validity

- 3 professionals with public health, medicine and survey expertise.

Questionnaire Reliability : test-retest reliability

- Investigate 50 people who are willing to take phone interview, then retest after one week, 46 people accomplished.

10 Taiwan Medical Association

Survey design and sampling

Survey method

- Random-digit-dial telephone interview.

Target population

- Adults between 50 to 69 years of age in Taiwan.

Sampling method

- Stratified random sampling was conducted by 22 counties.
- The age percentage between 50-59 and 60-69 is nearly the same.

Sampling

- Target N=3,000.
- The minimum sample size of each county is 30.

2 Taiwan Medical Association

Conducting telephone survey

Time/personnel:

- 2012/09/14 to 2012/10/01 (5 days/weeks).
- 50 well trained interviewers working for 7 hours a day.

Total number of person called =64,803

- Complete interview =3,001
- Incomplete interview =1,762
- Not eligible =16,762
- Can't be reached =43,278

gender

- 39.1% male
- 60.9% female

Age

- 18.6% 50-54
- 25.5% 55-59
- 24.6% 60-64
- 31.4% 65-69

12 Taiwan Medical Association

Results

✦ **Characteristics associated with higher likelihood of taking the iFOBT in multivariate models include :**

- **Demographics**
 - ✓ Being female, older age, having higher education, being married, being unemployed and living in middle and southern Taiwan.
- **Health Belief Model Characteristics**
 - ✓ Higher Perceived Susceptibility (worry about having the Colorectal cancer)
 - ✓ Higher Perceived Severity (believe that colorectal cancer is a life-threatening disease)
 - ✓ Higher Perceived Benefits of Taking Action (believe the iFOBT screening will help to detect in early stage, believe the accuracy of the iFOBT)

13 Taiwan Medical Association

Results

- ✓ Cues to action (receive information of the colorectal cancer from mass media, had been told the iFOBT screening information by relatives or friends, any relatives got colorectal cancer, medical personnel suggest to take the iFOBT, receive information of the iFOBT screening service from hospitals, have the symptom of colorectal cancer)
- **Awareness of CRC screening process** (knowing that CRC screening is a two stage process. Further work up is needed with a positive iFOBT)
- **Participation in other cancer screening** (mammography · cervical Pap smear test · oral screening)
- **Higher CRC screening accessibility in healthcare organizations**

14 Taiwan Medical Association

Results

✦ **Characteristics associated with lower likelihood of taking the iFOBT in multivariate models include :**

- **Health Belief Model Characteristics**
 - ✓ Higher perceived barriers of taking action (the process of iFOBT is complex, taking the iFOBT will affect daily activities, worry about the iFOBT result).
- **Health behavior and health status**
 - ✓ Have the unhealthy behavior (smoking, drinking alcohol, chewing betel nut and eat too much vegetables and fruits).

15 Taiwan Medical Association

Conclusion and recommendations

1. Strategies are needed to raising screening willingness for those with younger age and with employments.
2. Strategies are needed to raising screening willingness for those who are unmarried.
3. Co-promotion of multiple cancer screening to increase the screening rate of iFOBT.
4. Strategies are needed to increase the accessibility of screening, and decrease geographic differences.
5. Strategies are needed to provide incentives to healthcare professionals for promotions of iFOBT screening.
6. Extend the screening age limit to those >70 years old.

16 Taiwan Medical Association



Further study

- **Background :** People with positive iFOBT should be referred for colonoscopy or other work-up. However, the referral rate was not optimal.
- **Objectives :** To explore the factors associated with willingness of referrals for colonoscopy after with positive iFOBT in a population representative sample.
- **Methods :**
 - ✓ Investigate 3,000 positive iFOBT cases by telephone interview.
 - ✓ Similar questionnaire development and validation process as previous study.
 - ✓ Similar telephone interview process as previous study.

17 Taiwan Medical Association

Further study

- **Conducting Survey :**
 - ✓ Time: 2012/10/05 to 2012/10/24 (5 days/weeks)
 - ✓ Analysis is undertaking!!!!

18 Taiwan Medical Association