

# Receptivity towards Breast Cancer Awareness Materials: Message Design and Content

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**Abstract**— Researchers who studied breast cancer awareness have recommended educational programmes but a major gap in knowledge is whether health promotion materials on breast cancer capture the attention of the audience and educate them on the disease. This case study examined women's receptivity towards breast cancer leaflets produced by Ministry of Health Malaysia based on the Risk Perception Attitude (RPA) Framework. Five breast cancer brochures were presented to 10 female participants to gauge their receptivity towards the leaflets. The leaflets were analysed for the application of message design principles, notably colour, graphics and typographical features as well as the message content based on RPA constructs. The participants were more receptive towards breast cancer leaflets with susceptibility and self-efficacy messages compared to leaflets with only recommended actions for self-protective behaviour. However, for these behavioural change messages to reach the audience, the message design of the leaflets needs to be thematically linked to known breast cancer campaigns; the pink ribbon and the pink colour. There is a strong non-preference for sketches of woman performing breast self-examination on the leaflets. Considering that susceptibility messages are well-received, inclusion of severity and response efficacy messages could heighten intention to take action.

**Keywords**— breast cancer, health promotion, message design, public receptivity, Risk Perception Attitude framework

## I. INTRODUCTION

There is a growing incidence of breast cancer in various regions. In the United Kingdom, one in eight women and one in 870 men are diagnosed with breast cancer during their lifetime [1]. Belgium has the highest rate of breast cancer, followed by Denmark and France, and the lowest incidence is in Africa and Asia [2]. Even so, approximately one in 20 women in Malaysia develop breast cancer in their lifetime [3]. The 2007 National Cancer Registry of Malaysia shows that breast cancer is

the most common cancer in Malaysia, accounting for 18.1% of cancer incidences among Malaysian women, and breast cancer accounts for 32.1% of cancer incidences [4]. The commonest age for breast cancer onset is 40-49 years, in the form of lumps in 90% of cases. Incidence varies by ethnicity; fewer Malay women develop breast cancer (1 in 28) compared to Chinese and Indian women (1 in 16) but the breast cancer is diagnosed at late stages and with larger tumours, resulting in poorer outcomes [3]. In the 2003 Cancer Registry of Malaysia report, the age group most affected by breast cancer is 50-59 years. Breast cancer is the main cause of cancer death in women [5].

Many studies have shown lack of awareness as a cause for delayed diagnosis of breast cancer, thereby leading to poor treatment outcomes. A survey in Hong Kong, Malaysia and India found that the late stage diagnosis among Asian women was due to factors such as lack of awareness, unavailability of breast cancer screening, faith in low-cost traditional alternative medicine systems, low priority accorded to healthcare needs of women, and sociocultural barriers of hesitation of women to have their breasts examined [6]. A study of 186 newly diagnosed breast cancer patients in the East Malaysian state of Sabah found that the commonest pathological stage of breast cancer at presentation was Stage III (36.6%), followed by Stage II (30.1%), Stage IV (15.6%) and Stage I (12.9%) [7]. Their findings showed that one fifth of the patients refused the recommended treatment or defaulted follow-up in favour of traditional or alternative therapy, and with the majority being non-Chinese, poor, and from rural and low education backgrounds. A survey among 200 female university students in a Penang university showed that they correctly identified the symptoms of breast cancer and acknowledged family history, old age and cigarette smoking as potential risk factors for breast cancer but not less known factors such as menopause after the age of 55 years, early onset of menses and first child after the age of 30 years (35%) [8]. Awareness of breast self-examination,