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Patient Satisfaction in Croatian Nationwide Mammography Screening Program

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Abstract

Mammographic screening programs are essential in timely detection and effective treatment of breast cancer. Since 2006, Croatia implemented a national MSP which asks for a regular biannual mammography for all women 50 - 69 years of age. First-visit screening attendance in the country is estimated at 58.3% with the trend of gradually decreasing re-attendance rates. Since patient satisfaction with the screening procedure may influence subsequent adherence, this study aimed to assess patient satisfaction in order to predict and improve patient re-attendance rate, a first-time effort of such kind in Croatia. 201 random patients undergoing mammography screening procedure at four facilities in Croatia were asked to complete an anonymous questionnaire which specifically evaluated the following aspects of patient experience: patient attitude, facility surroundings, staff attitude and pre-examination information transfer, associated physical pain, psychological discomfort, and finally overall patient impressions and satisfaction. The majority of our examinees expressed high satisfaction with MSP and an intention to re-screen; patient attitude, facility environment and staff attitude were deemed overly positive, whereas the majority of patients estimated the physical and psychological pain associated tolerable. These results suggest that patient satisfaction is not a critical factor influencing future adherence rate in MSP, and other components of the program should be evaluated and improved.

Keywords

Croatian, Mammography, Screening Program, Patient Satisfaction

1. Introduction

Mammography (MG) plays a central role in the diagnosis of breast cancer (BC), the 2nd leading cause of cancer-related death in women. Mammographic screening

programs (MSP) are of essential importance in timely detection and effective treatment of BC [1] [2]. National MSP is a significant logistical, organizational and financial challenge, whose success depends highly on attendance rate. Since 2006 Croatian national MSP calls for a regular biannual mammography for all women 50 - 69 years of age. First-visit screening attendance in Croatia is estimated at 58.5% [3]. Subsequent women's re-attendance may be influenced by the experience and satisfaction with their previous examination [4] [5]. In order to predict and improve re-attendance rate many studies have demonstrated the importance of evaluating patient satisfaction [6] [7] [8] [9] [10]. Patient satisfaction may be assessed in terms of specific contributing factors such as ease of accessibility, facility and staff resources, pre-examination information transfer, and physical and psychological discomfort induced by the examination. A successful mammography examination should involve timely scheduling, clear pre-examination information on the benefits and precautions of the procedure, comfortable waiting and examination rooms, welcoming professional staff and an agreeable breast compression technique during the examination. Considering that high patient satisfaction with the procedure could improve patient adherence rate, which has been decreasing in recent years, we designed this study to assess patient experience in a sample of women participating in Croatian national MSP. A first-time effort of such kind in quality assurance/quality control activities, which have not been sufficiently and systematically implemented in Croatia, this assessment contributes to identifying possible organizational and logistic weaknesses and opportunities for improvement of the program.

2. Materials and Methods

The series consists of a sample of 201 women undergoing regular MSP in the period from January to May 2014, aged 50 - 69 (average 58) years. Ten women per day undergoing screening MG procedure were randomly chosen to be surveyed at 4 university hospitals, 1 county hospital and 1 secondary healthcare facility (Dom zdravlja) using an anonymous questionnaire completed immediately after the examination with the authors' assistance. Informed consent was obtained from the patients and approved by the ethics committee of the MSP. The questionnaire consisted of 40 questions covering the following specific categories: general patient profile, level of information before MG, ease of accessibility and comfortableness of the mammography facility, staff attitude towards the patient, patient impressions of the mammographer, physical discomfort and pain of the examination, associated psychological discomfort, post-examination impressions and general patient satisfaction with MG. Questions assessing patient attitudes utilized Likert's Scale of 5 possible answers (1-strongly agree, 2-partially agree, 3-neither agree nor disagree, 4-mostly disagree, 5-strongly disagree). Pain level was assessed by the Visual Analogue Scale (VAS) (0 = no pain, 10 = severe pain) [11]. The reliability of the questionnaire was first assessed by a pilot study of 20 women, after which the questions were revised and improved. The descriptive study design was estimated as having good reliability by a Cronbach's α

coefficient > 0.7.

3. Results and Discussion

Success of national MSP depends highly on patient adherence rate, which is closely associated with the experiences related to the screening procedure. Assessment of general and specific factors influencing patient experience helps recognize potential areas for improving patient satisfaction and future adherence. Specifically, this study evaluated patient attitude, facility surroundings, staff attitude and pre-examination information transfer, associated physical pain, psychological discomfort, and finally overall patient impressions and satisfaction.

Positive *patient attitude before the examination* contributes to later patient satisfaction with the process [12]. In our study, a great majority of patients (97.0%, 195) stated that they agree that MG is reliable in detection of BC, and have a positive attitude about the procedure, which may be the consequence of educational advertisement campaigns undertaken in recent years in the public media, and educational written materials received with the letter of invitation for mammography screening. The authors of the study had an opportunity to observe women sitting and chattering in waiting-rooms prior to official survey and observed spontaneous affirmative conversations among participants with little or no doubts about the accuracy of MG and radiation risks related.

The *environment of the mammographic screening facility* is a contributing factor in decreasing patient anxiety. Great majority (93.5%, 188) of our examinees found the environment of the waiting rooms pleasant, 57.2% (115) agrees that the examination room is pleasant, but 30.3% (61) of patients completely disagree about adequacy of privacy during the procedure. Pleasant and welcoming environment of the waiting and examination room positively affects patient satisfaction [13], and could be achieved even with minor modifications if the staff is aware of this issue. In some institutions surveyed in our study there were no separated cabins for undressing available, and women usually prepared for the examination within the examination room in the presence of the mammographer preparing MG equipment for the exposure. Such limited privacy may be unpleasant for the women undergoing screening. Although MG units are rarely located in underground floors of old hospital buildings with elevators reserved only for staff, and limited parking areas for customers, 65.6% (132) of examinees did not have difficulties arriving to the place of the examination, considering traffic accessibility, parking opportunities and infrastructural barriers. An important factor that limits attendance rate to MSP in sparsely populated rural areas of Croatia is the lack of regular public transportation (e.g. Lika region, small islands) which discourages women to attend, although engagement of mobile MG units visiting these areas partially solves the problem.

Positive *staff attitude and pre-examination information* transfer are important contributing factors to patient satisfaction. Negative experience regarding staff attitude has been shown to decrease overall patient satisfaction with the proce-

dure [14]. Insufficient knowledge and distrust about the examination have been associated with dissatisfaction [12]. Pleasant and knowledgeable staff [15], as well as extra time and patience spent in explaining the procedure could decrease anxiety and improve rescreening rate [16]. Verbal information preceding the examination decreases patient anxiety, particularly in first time participants [17]. 87.5% (176) of our participants are satisfied with the manner of reception immediately after the entry to the MG facility, believe they "had been given clear and adequate information regarding the benefits and cautions of the procedure", that "the examination had not been performed in a hurry", and that "the personnel did their best to make them feel comfortable". However, only 67.2% (135) states they have been explained that breast pain and tenderness may appear following the procedure which would not be a reason for concern. Moreover, a significant number of women (17.9%, 36) think that the staff failed to give a proper explanation about the pain during breast compression, which was expected from them.

Subjective *patient assessment of mammographer's professional skills* could have an impact on patient satisfaction, considering that the women have been invited to the procedure and expect a high service quality and professional courtesy. More than a half (51.3%, 103) of the patients had an impression that the person who performed the examination was insufficiently trained and professionally skilled for such a task. Some studies [12] have shown that such a perception is due to the inability of non-professionals to properly estimate professional skills of the staff. The objective reasons may include limited training of some mammographers, especially younger ones which participate in MSP for financial reasons outside of regular working hours, often fatigued after morning clinical duties; also overbooking of patients, usually done due to variable attendance can cause an unexpectedly high workload and the mammographers to be in a hurry. This finding requires more research, and efforts in additional education and licensing of mammographers participating in MSP is needed. In spite of the abovementioned women's subjective impressions, 89.6% (180) of them believe that MG has been technically adequately performed and accurate enough for BC detection.

Physical breast pain and discomfort during MG is a significant factor that may cause anxiety and dissatisfaction with the procedure, and various strategies for pain relief could be attempted. 60% (120) of our patients found the procedure mildly painful or even completely painless (scores 1 - 3 on a 10-point Visual Analog Scale (VAS)), a highly satisfactory result considering the age of participants, and limited technical skills of mammographers in some facilities. The usual breast compression force of 12 daN was comfortable for 46.3% (93) of the patients, whereas others would ask to decrease the compression force. Great majority of patients (88.5%, 178) claim that they completely understand the reasons why breast compression is required to achieve proper quality of images and to reduce breast radiation dose, whereas (19.4%, 39) of patients think that MG is an inherently painful examination; 8% (16) of patients consider the reason being

was the too small size of their breasts, and 7.5% (15) the too large size of their breasts.

In one study [18] applying 4% lidocaine gel prior to compression significantly reduced patient discomfort. The majority (80.1%, 161) of women in our study, however, considered administering some kind of pain relief before the examination (e.g. an anesthetic gel) completely unnecessary. Other studies proposed different strategies for reducing pain, including employing music for relaxation [19] or using breast cushions [20]. Breast support plate was experienced as too cold for 22.9% (46) of patients in our study.

Psychological impressions associated to MG procedure are related to the imaging technique itself (getting undressed, compression) and to the mammographer's social skills and communication ability, and significantly influences patient satisfaction. Majority of women in our series (87.6%, 176) have not experienced the procedure psychologically embarrassing or unpleasant, 74.6% (150) of women agrees that the personnel acted supportively and reassuring, and 85.1% (171) states that the staff approach was encouraging them for future re-screening. The possibility of recall for further testing after basic MG screening has been confirmed to increase patient anxiety [21] [22], but 80.6% (162) of our patients agree that they feel no anxiety waiting for their examination results and possible recall.

Overall satisfaction with the MSP was good in the vast majority of examinees ("completely satisfied" 65.6% (132), "satisfied" 26.9% (54)), and 87.6% (176) of them found the associated discomfort negligible compared to possible benefits of MG. Only 6.9% (14) of women found the overall experience more taxing than they expected. The most (93.1%, 187) of women claim their examination experience encourages them to re-screen, and would recommend other women to participate in MSP.

There are some limitations of the study concerning sample patient characteristics, influence of social desirability bias and non-assessment of some factors. Most of the patients have previously undergone MG has found them tolerable: 7.5% (15) underwent MG for the first time, 7.9% (16) previously underwent screening MG once, 17.4% (35) twice, and 64.2% (129) three or more times. A more appropriate assessment of screening experience would involve a greater number of first-time participants. The survey was completed in the examination facility, which could have the results affected by social desirability bias [23]. Most participants in the sample were urban-dwelling (81.6%, 111), were better educated (53.2% (107) were high-school educated and 14.4% (29) had only primary school), and had greater accessibility to MSP than residents of isolated rural communities. Some factors which could influence patient satisfaction, such as result reporting [24] and information environment [25] have not been assessed. Finally, this study did not account for the discrepancy between the intentions to re-screen and realized re-screening, an already documented phenomenon [14]. All these factors could overestimate the portion of satisfied participants and future patient adherence rate.

4. Conclusion

In conclusion, in this first quality assurance survey in Croatian MSP the majority of our examinees expressed high satisfaction with MSP and an intention to re-screen. More specifically, patient attitude, facility environment and staff attitude were deemed overly positive, whereas the majority of patients estimated the physical and psychological pain associated tolerable. The results of this study suggest that patient satisfaction would not be a critical factor influencing future adherence rate in MSP, and other components of the program should be improved to maintain satisfactory participation.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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