IMPROVING COMMUNITY AWARENESS OF THE HEALTH BENEFITS OF OYSTER MUSHROOMS THROUGH FUNCTIONAL FOOD EDUCATION AMONG THE SIPIN DANAU SEJAHTERA WOMEN'S FARMER GROUP

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ABSTRACT

Oyster mushrooms (Pleurotus ostreatus) are functional foods rich in nutrients and bioactive compounds that provide various health benefits. However, community awareness of these benefits remains limited. This community service program aimed to improve awareness of the health benefits of oyster mushrooms through functional food education among members of the Sipin Danau Sejahtera Women's Farmer Group. A one-day educational program was implemented using a three-stage approach comprising a baseline assessment through a pre-test, interactive education on the nutritional composition and health benefits of oyster mushrooms, and program evaluation using a questionnaire. A total of 32 participants attended the program. The educational intervention effectively increased participants' knowledge, with the mean knowledge score improving from 65.4% before the intervention to 98.3% after the educational session. Participants also demonstrated a better understanding of oyster mushrooms as functional foods that support healthy dietary practices. Functional food education effectively enhanced community awareness of the health benefits of oyster mushrooms. This educational approach has the potential to promote healthier dietary behaviors and increase the utilization of locally available functional foods to support community health.

Keywords: community service; functional food; health; pleurotus ostreatus

ABSTRAK

Jamur tiram (Pleurotus ostreatus) adalah makanan fungsional yang kaya akan nutrisi dan senyawa bioaktif yang memberikan berbagai manfaat kesehatan. Namun, kesadaran masyarakat tentang manfaat ini masih terbatas. Program pengabdian masyarakat ini bertujuan untuk meningkatkan kesadaran tentang manfaat kesehatan jamur tiram melalui pendidikan makanan fungsional di kalangan anggota Kelompok Petani Wanita Sipin Danau Sejahtera. Program edukasi satu hari dilaksanakan menggunakan pendekatan tiga tahap yang terdiri dari penilaian dasar melalui pra-uji, materi interaktif tentang komposisi nutrisi dan manfaat kesehatan jamur tiram, dan evaluasi program menggunakan kuesioner. Sebanyak 32 peserta mengikuti program tersebut. Intervensi pendidikan secara efektif meningkatkan pengetahuan peserta, dengan skor pengetahuan rata-rata meningkat dari 65,4% sebelum intervensi menjadi 98,3% setelah sesi pendidikan. Peserta juga menunjukkan pemahaman yang lebih baik tentang jamur tiram sebagai makanan fungsional yang mendukung praktik diet sehat. Pendidikan makanan fungsional secara efektif meningkatkan kesadaran masyarakat tentang manfaat kesehatan jamur tiram. Pendekatan pendidikan ini berpotensi untuk mendorong perilaku diet yang lebih sehat dan meningkatkan pemanfaatan makanan fungsional yang tersedia secara lokal untuk mendukung kesehatan masyarakat.

Kata kunci: *Pelayanan Masyarakat; Makanan Fungsional; Kesehatan; Pleurotus ostreatus*

INTRODUCTION

The increasing prevalence of non-communicable diseases has encouraged greater public interest in adopting healthier dietary patterns, including the consumption of functional foods that provide physiological benefits beyond basic nutrition. Functional foods are recognized as an effective strategy for health promotion and disease prevention because they contain bioactive compounds capable of supporting normal physiological functions and reducing the risk of chronic diseases[1,2]. However, public awareness and understanding of functional foods remain limited, particularly in community settings where educational interventions are still insufficient[3,4].

Oyster mushroom (*Pleurotus ostreatus*) is one of the most widely cultivated edible mushrooms due to its ease of cultivation, affordability, and high nutritional value. In addition to being an excellent source of dietary protein, fiber, vitamins, and essential minerals, oyster mushrooms contain numerous bioactive compounds, including β-glucans, phenolic compounds, ergothioneine, and polysaccharides, which exhibit antioxidant, anti-inflammatory, immunomodulatory, antimicrobial, hypoglycemic, and hypolipidemic activities[5–8]. These characteristics have positioned *P. ostreatus* as an important functional food with considerable potential to support public health and improve nutritional quality. Recent evidence has further highlighted its potential applications in nutraceutical development and sustainable health promotion[9–11].

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Clinical and experimental studies have demonstrated that regular consumption of oyster mushrooms may contribute to improved cardiometabolic health by reducing blood glucose levels[12–16], serum triglycerides, and low-density lipoprotein (LDL) cholesterol, while fungal β-glucans have been associated with enhanced immune function and improved resistance to respiratory infections. These findings emphasize the importance of increasing community awareness regarding the health-promoting properties of oyster mushrooms and encouraging their incorporation into daily diets as part of a healthy lifestyle[17,18].

The Sipin Danau Sejahtera Women's Farmer Group (Kelompok Wanita Tani/KWT) represents a strategic community partner for disseminating knowledge on functional foods because its members are actively involved in household food production, food processing, and community empowerment activities. As primary decision-makers in household food preparation, women play a crucial role in promoting healthy dietary behaviors within their families and communities. Nevertheless, despite the local availability and cultivation potential of oyster mushrooms, knowledge regarding their scientifically supported health benefits is generally limited, with consumption often driven primarily by taste and affordability rather than awareness of their functional properties.

Community education is an effective approach to improving health literacy and promoting behavioral change. Educational programs that integrate scientific evidence with practical applications can enhance participants knowledge, encourage healthier food choices, and increase the utilization of locally available functional foods. Therefore, this community service activity aimed to improve community awareness of the health benefits of oyster mushrooms through functional food education among members of the Sipin Danau Sejahtera Women's Farmer Group. It is expected that the educational intervention will strengthen participants' understanding of oyster mushrooms as functional foods and encourage their broader utilization to support family health and community well-being.

METHODS

The community service program was conducted over a one-day session in 7 June 2026 at the Sipin Danau Sejahtera Women's Farmer Group (Kelompok Wanita Tani/KWT), Jambi City, Indonesia. The target participants were members of the Sipin Danau Sejahtera Women's Farmer Group, who are actively involved in community-based agricultural activities and household food management. The program was implemented in three main stages:

Stage 1: Baseline Assessment and Functional Food Education

The program began with participant registration followed by the administration of a pre-test questionnaire to assess baseline knowledge regarding functional foods and the health benefits of oyster mushrooms. Subsequently, an interactive educational session was delivered by the community service team from Universitas Jambi. The session covered the concept of functional foods, the nutritional composition of oyster mushrooms (*Pleurotus ostreatus*), their bioactive compounds, and evidence-based health benefits, including antioxidant, immunomodulatory, anti-inflammatory, and cardiometabolic protective effects. Educational materials were presented using PowerPoint slides, visual illustrations, and informational leaflets to facilitate participant understanding.

Stage 2: Interactive Discussion and Knowledge Sharing

Following the educational session, participants engaged in an interactive discussion and question-and-answer session. This activity encouraged participants to share their experiences related to oyster mushroom consumption, discuss common misconceptions, and explore opportunities for incorporating oyster mushrooms into their family's daily diet. The facilitators provided scientific clarification and practical recommendations to strengthen participants' understanding of oyster mushrooms as functional foods that support a healthy lifestyle.

Stage 3: Program Evaluation

The effectiveness of the educational intervention was evaluated through a post-test questionnaire administered immediately after the session. The questionnaire assessed changes in participants' knowledge regarding the nutritional value, functional properties, and health benefits of oyster mushrooms. Participants were also invited to provide feedback on the educational materials, presentation methods, and overall implementation of the program. The comparison between pre-test and post-test results was used to evaluate the effectiveness of the educational intervention in improving participants' awareness and knowledge.

RESULTS AND DISCUSSION

A total of 32 members of the Sipin Danau Sejahtera Women's Farmer Group participated in the functional food education program. The participants attended the educational session enthusiastically and actively engaged in the learning process through interactive discussions and question-and-answer activities. The educational materials focused on the nutritional composition, bioactive compounds, and scientifically proven health benefits of oyster mushrooms (*Pleurotus ostreatus*) as a functional food. Visual presentations and printed educational materials were used to facilitate participants' understanding of the concepts presented.

The effectiveness of the educational intervention was assessed by comparing participants' knowledge before and after the educational session using pre-test and post-test questionnaires. The results showed a marked improvement in participants' knowledge of the health benefits of oyster mushrooms. The mean knowledge score increased from 65.4% in the pre-test to 98.3% in the post-test, representing an increase of

32.9 percentage points. This substantial improvement indicates that the educational intervention effectively enhanced participants understanding of oyster mushrooms as functional foods with significant health-promoting properties.

The considerable increase in knowledge can be attributed to the use of an interactive educational approach that encouraged active participation throughout the learning process. The combination of lectures, visual media, and open discussions enabled participants to better understand scientific information related to oyster mushrooms while allowing them to clarify misconceptions through direct interaction with the facilitators. Active learning strategies have consistently been reported to improve knowledge acquisition and retention compared with conventional one-way educational approaches[19].

During the educational session, participants were introduced to the nutritional value of oyster mushrooms, including their high-quality protein, dietary fiber, B-complex vitamins, potassium, phosphorus, and other essential micronutrients. In addition, the facilitators explained the presence of important bioactive compounds such as β-glucans, ergothioneine, phenolic compounds, and polysaccharides, which have been reported to exhibit antioxidant, anti-inflammatory, immunomodulatory, hypoglycemic, and hypolipidemic activities[16,20,21]. These scientific findings reinforce the role of oyster mushrooms as functional foods that may contribute to the prevention of chronic diseases and the maintenance of overall health[17,18].

The high post-test score (98.3%) suggests that participants successfully understood the educational content delivered during the program. Prior to the intervention, many participants recognized oyster mushrooms primarily as an edible commodity with economic value but had limited knowledge regarding their scientifically supported health benefits. Following the educational activities, participants demonstrated a better understanding of the functional properties of oyster mushrooms and expressed greater awareness of the importance of incorporating them into daily dietary practices.

Figure 1. Community service activities at the Sipin Danau Sejahtera Women's Farmers Group

The Sipin Danau Sejahtera Women's Farmer Group represents an important community partner because its members are actively involved in agricultural activities and household food management. Improving their knowledge has the potential to generate broader community impacts, as women often play a central role in selecting, preparing, and promoting healthy foods within their families. Increased awareness of the health benefits of oyster mushrooms is therefore expected to encourage healthier dietary behaviors, promote greater utilization of locally cultivated mushrooms, and support community-based nutrition improvement initiatives.

These findings are consistent with previous studies demonstrating that nutrition education and functional food promotion significantly improve community knowledge and health literacy. Educational interventions that combine scientific evidence with participatory learning methods have been shown to

effectively increase awareness, facilitate behavioral change, and encourage the adoption of healthier dietary habits. Furthermore, promoting locally available functional foods such as oyster mushrooms contributes not only to public health improvement but also to sustainable community empowerment through the optimal utilization of local agricultural resources[22–25].

Overall, the community service program successfully achieved its primary objective of improving community awareness of the health benefits of oyster mushrooms. The significant increase in knowledge from 65.4% to 98.3% among the 32 participants demonstrates that functional food education is an effective strategy for enhancing health literacy within community groups. Future programs should include follow-up evaluations to determine whether the increased knowledge leads to sustained behavioral changes, including regular consumption of oyster mushrooms and improved family dietary practices.

CONCLUSION

The functional food education program effectively improved awareness of the health benefits of oyster mushrooms among members of the Sipin Danau Sejahtera Women's Farmer Group. Participants' average knowledge score increased from 65.4% before the intervention to 98.3% after the educational session, demonstrating the effectiveness of interactive education in enhancing community knowledge of oyster mushrooms as functional foods. This program has the potential to promote healthier dietary practices and support community health through increased utilization of locally available functional foods.

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