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BUILDING HAPPIER, HEALTHIER VILLAGES: A PROCESS EVALUATION OF SRI LANKA'S HAPPY VILLAGE PROJECT

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ABSTRACT

Background: Sri Lanka's Happy Village project uses senior citizens as volunteer change agents to reduce non-communicable disease (NCD) risk factors and promote community empowerment and health literacy.

Methods: A mixed-methods process evaluation was conducted in the Katukurundu Watte Public Health Midwife area of Rathmalana Medical Officer of Health division. Relevance was assessed through document review and stakeholder interviews. Health literacy across seven NCD risk-factor areas was compared between member and non-member families using a validated questionnaire. Monthly household consumption of sugar, salt and oil was compared with baseline programme data and contemporaneous values from non-member families.

Results: The project aligned with national NCD policy, Sustainable Development Goal 3, the Ottawa Charter and the Shanghai Declaration. Awareness exceeded 80% for every assessed risk factor in both groups. Good health literacy did not differ significantly between member and non-member families (24% versus 20%; $p=0.733$). Among member families, reported monthly consumption declined from baseline by 22.2% for sugar, 25.0% for salt and 26.3% for oil, and current consumption was lower than among non-members. Qualitative findings identified weaknesses in volunteer selection, supervision, documentation, feedback, training and incentives.

Conclusion: Happy Village was relevant and showed encouraging dietary-practice changes, but no distinct health-literacy improvement was demonstrated. Stronger implementation fidelity, monitoring and volunteer support are needed before scale-up.

Keywords: Process Evaluation; Health Promotion; Non-Communicable Diseases; Health Literacy; Community Empowerment; Sri Lanka

1 INTRODUCTION

Health promotion is the process of enabling people to increase control over and improve their health [1,10]. Community-based health-promotion programmes have long been used to address cardiovascular disease and other NCD risk factors. Early programmes such as the North Karelia Project and the Stanford Three-Community Study demonstrated the value of community participation, population-level action and sustained health education [2-8].

The increasing burden of NCDs has made population-based prevention a continuing public-health priority. WHO's Global Action Plan for the Prevention and Control of NCDs 2013-2020 emphasized action on tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity [13]. Sri Lanka's National Policy and Strategic Framework for Prevention and Control of Chronic Non-Communicable Diseases and the National Multisectoral Action Plan similarly emphasized community empowerment, healthy lifestyles and population-level reduction of major NCD risk factors [14,15].

Health literacy is an important outcome of health promotion because it concerns people's ability to access, understand and use information in ways that support health [10-12]. The Shanghai Declaration further linked health literacy and community empowerment with the 2030 Sustainable Development Agenda [16,17].

The Happy Village project was introduced by the Health Promotion Bureau (HPB) as a population-based health-promotion initiative. A Happy Village setting generally comprised a cluster of households within a defined geographical area. Senior citizens were selected as volunteers, trained in communication, health-promotion principles and major NCD risk factors, and expected to visit allocated households, support preventive and promotive activities, and meet regularly with programme facilitators. The programme intended to address smoking, alcohol, unhealthy diet, physical inactivity and other determinants through community action and improved health literacy. The use of older people as volunteers also had the potential to provide social participation and mutual benefit [9].

Approximately one year after implementation in the selected setting, it was considered too early to assess all intended longer-term changes. Therefore, the evaluation focused mainly on relevance and the early outcome of improved health literacy, while also identifying implementation lessons.

Programme evaluation is intended to generate credible evidence that can be used to improve programmes and support decision-making [18,20]. Process evaluation is particularly useful for understanding how an intervention is implemented, how context influences delivery and why expected outcomes are or are not observed [19]. The present evaluation was therefore designed to answer practical questions regarding programme relevance, early effectiveness and implementation in the Rathmalana setting.

2 EVALUATION PURPOSE, CRITERIA AND QUESTIONS

The purpose of the evaluation was to determine the results and early outcomes delivered by the Happy Village project with particular attention to improved health literacy, and to generate lessons that could be used during the remaining programme period. The evaluation covered implementation from 2017 to 2019 in the Rathmalana Medical Officer of Health division, with field data collection in the Katukurundu Watte Public Health Midwife area.

The evaluation used two principal criteria: relevance and effectiveness. Relevance considered whether the programme objectives and design responded to national policy priorities, international commitments and local health needs. Effectiveness considered the extent to which the programme had achieved its early objective of improving health literacy and healthier consumption practices. These criteria are consistent with established evaluation approaches that distinguish the appropriateness of an intervention from the extent to which intended results are achieved [18,21].

The evaluation questions were: (1) Is the project aligned with government policies? (2) Is the project aligned with the Sustainable Development Goals and other international health-promotion resolutions? and (3) How effective is the project in improving health literacy related to NCD risk-factor reduction?

3 EVALUATION METHODOLOGY

3.1 Evaluation design

A mixed-methods evaluation was applied, comprising qualitative and quantitative components. The qualitative component supported tool development and assessment of programme relevance and implementation. The quantitative component assessed health literacy and selected household consumption practices. The approach was

consistent with public-health evaluation principles that combine programme description, stakeholder perspectives, credible evidence and use-oriented conclusions [18,20].

3.2 Qualitative component and document review

The evaluator prepared an item list following a literature review, expert opinion and discussions with Health Education Officers. Higher-level officials of the Health Promotion Bureau, the Medical Officer of Health in Rathmalana and the Public Health Midwife in Katukurundu Watte contributed to the expert process. Questions for the health-literacy questionnaire were refined using a modified Delphi technique until consensus was achieved.

Key-informant interviews were conducted with the Regional Director of Health Services, Medical Officer of Health and Public Health Nursing Sister to assess the relevance of the programme to the local health-system context. Programme and policy documents were reviewed using a data-extraction approach. The document review examined alignment with the National Policy and Strategic Framework for Prevention and Control of Chronic NCDs, the National Multisectoral Action Plan for NCDs, the Sustainable Development Goals, the Ottawa Charter and the Shanghai Declaration.

3.3 Quantitative component

The original evaluation described the quantitative component as an analytical longitudinal study. Operationally, the evaluation combined historical baseline programme data for Happy Village households with a contemporaneous comparison between Happy Village member families and non-member families in the same Public Health Midwife area. Convenience sampling was used because the evaluation was conducted in the functioning Happy Village setting at Katukurundu Watte.

Families enrolled in the Happy Village project for more than six months were eligible as programme beneficiaries. Comparison families were from the same Public Health Midwife area and had not been directly involved in Happy Village interventions. The questionnaire assessment included 25 Happy Village member families and 25 non-member families.

3.4 Evaluation instrument and indicators

A self-administered questionnaire assessed health literacy. It contained 20 true/false items across seven NCD risk-factor areas: harmful use of alcohol, tobacco use, excessive sugar consumption, excessive salt consumption, excessive oil consumption, inadequate fruit and vegetable consumption, and physical inactivity. Each question was developed to reflect at least one programme risk-factor message. The instrument underwent judgemental validation through the expert panel and modified Delphi process.

For each risk-factor domain, a respondent was considered aware if at least 50% of the relevant questions were answered correctly. Overall health literacy was classified as poor (<50% correct), average (50-75%) or good (>75%). The evaluation also obtained monthly household consumption of sugar, salt and oil and compared current values with programme baseline values and with the contemporaneous non-member group.

3.5 Analysis

Descriptive findings were presented using frequencies, percentages and consumption quantities. Chi-square testing was used to assess the association between Happy Village membership and categorised health literacy at a significance level of $p=0.05$. The programme report also compared baseline and current consumption values descriptively. Because the evaluation sample was small and selected by convenience, the consumption comparisons are interpreted as evidence of possible programme contribution rather than definitive causal attribution.

3.6 Administrative, ethical and evaluation standards

Administrative permission was obtained from the relevant authorities, including the Regional Director of Health Services, Colombo; the Director of the Health Promotion Bureau; and the Medical Officer of Health, Rathmalana. The evaluation respected gender equality and human and child rights and followed United Nations evaluation standards and norms. Formal ethics committee approval was not required because the work was conducted as a programme evaluation; informed consent was obtained from all participants.

4 EVALUATION FINDINGS

4.1 Relevance to national policy and international commitments

The Happy Village project was strongly aligned with the National Policy and Strategic Framework for Prevention and Control of Chronic Non-Communicable Diseases, particularly its emphasis on community and family empowerment, culturally sensitive strategies, equity, sustainability and multisectoral approaches [14]. The programme objective of

reducing major NCD risk factors also reflected the national policy vision and its strategy of empowering communities to promote healthy lifestyles.

The programme targets were also broadly consistent with the National Multisectoral Action Plan for the Prevention and Control of NCDs 2016-2020, including targets relating to tobacco, physical inactivity, salt intake, diabetes and obesity [15]. This alignment was consistent with the WHO Global NCD Action Plan [13].

At international level, the project reflected Sustainable Development Goal 3 and had links to other SDGs through healthy consumption, reduced inequalities and community participation [16]. The five programme action areas directly reflected the Ottawa Charter [1], while the emphasis on healthy settings, health literacy, empowerment and governance was consistent with the Shanghai Declaration [17]. The programme was also technically relevant to Sri Lanka's NCD burden and major behavioural and metabolic risks [23,24].

4.2 NCD risk-factor awareness

Table 1: Awareness of NCD risk factors among Happy Village member and non-member families.

Risk-factor area	Happy Village members aware	Non-members aware
Harmful use of alcohol	20/25 (80%)	21/25 (84%)
Tobacco use	22/25 (88%)	22/25 (88%)
Excessive sugar consumption	24/25 (96%)	23/25 (92%)
Excessive salt consumption	25/25 (100%)	24/25 (96%)
Excessive oil consumption	23/25 (92%)	22/25 (88%)
Inadequate fruits/vegetables	22/25 (88%)	23/25 (92%)
Physical inactivity	21/25 (84%)	20/25 (80%)

Awareness was high in both groups, with at least 80% of respondents classified as aware in every risk-factor domain. The evaluation did not identify a clear advantage among Happy Village members for individual risk-factor awareness. This finding is important because the programme was expected to improve health literacy, but the surrounding community already appeared to have relatively high baseline awareness.

4.3 Overall health literacy

Table 2: Overall health literacy among Happy Village member and non-member families

Health-literacy category	Happy Village members	Non-members
Average (50-75%)	19 (76%)	20 (80%)
Good (>75%)	6 (24%)	5 (20%)
Poor (<50%)	0	0

No respondent was classified as having poor overall health literacy. Good health literacy was present in 24% of Happy Village members and 20% of non-members. The difference between groups was not statistically significant ($\chi^2=0.116$, $p=0.733$). Therefore, the evaluation did not demonstrate a unique contribution of Happy Village membership to the measured health-literacy outcome.

4.4 Household consumption practices

Among Happy Village families, reported monthly consumption was lower than baseline for sugar, salt and oil. At the time of evaluation, non-member families also reported higher monthly consumption than member families: 3.4 versus 2.8 kg of sugar, 1.2 versus 0.9 kg of salt, and 1.8 versus 1.4 L of oil. The evaluation report considered the programme and its sticker campaign to have contributed to these changes. Given the evaluation design, the findings are best interpreted as encouraging evidence of programme contribution rather than proof of causality.

Table 3: Monthly household sugar, salt and oil consumption: baseline and current programme values with contemporaneous non-member comparison

Indicator	Baseline: Happy Village	Current: Happy Village	Change from baseline	Current: non-member
Sugar/month	3.6 kg	2.8 kg	-22.2%	3.4 kg
Salt/month	1.2 kg	0.9 kg	-25.0%	1.2 kg
Oil/month	1.9 L	1.4 L	-26.3%	1.8 L

4.5 Implementation findings and lessons learned

The qualitative component identified several implementation weaknesses. The original assumption that sufficient healthy and active senior citizens would be available as volunteers was not consistently met. Programme supervision was described as inadequate, and returns and records were not submitted as planned. Appreciation and feedback mechanisms for volunteers were also weaker than intended.

At group level, activities were not always clearly defined and some members did not fully understand the main programme concepts. Several planned activities were missed, and the frequency and fidelity of implementation were inconsistent. These findings indicate a gap between the intended programme model and actual delivery. In process-evaluation terms, weaknesses in implementation fidelity and programme support may have reduced the ability of the intervention to produce a measurable difference in health literacy [19].

5 DISCUSSION

This evaluation found strong relevance but mixed evidence of early effectiveness. The programme design was well aligned with national NCD policy, the national multisectoral action plan and international health-promotion commitments. This is an important strength because relevance is concerned with whether an intervention responds to beneficiary needs, policy priorities and context [21]. The Happy Village model also reflected long-standing health-promotion principles of community participation, empowerment and settings-based action [1,5-8].

The evaluation did not find a statistically significant difference in health literacy between members and non-members. Both groups demonstrated relatively high awareness of NCD risk factors. One likely explanation is that the programme operated in a community already exposed to wider public-health information, reducing the ability of a small evaluation to detect an additional knowledge effect. Health literacy is also broader than factual knowledge alone and includes the capacity to access, understand and use information in everyday decisions [10-12]. A 20-item knowledge questionnaire may therefore have captured only one part of the intended health-literacy outcome.

In contrast, household consumption data showed potentially meaningful behavioural change. Sugar, salt and oil consumption among programme households was lower than programme baseline values and lower than contemporaneous non-member values. This pattern is consistent with the programme's aim of changing daily practices rather than only increasing knowledge. Community health-promotion experience has repeatedly shown that behaviour change depends on supportive environments, community participation and practical action in addition to information provision [2-8].

However, the strength of causal inference is limited. The evaluation used convenience sampling, involved only one Public Health Midwife area, and compared current self-reported household consumption with programme baseline records. There was no randomized allocation and no statistical testing reported for the consumption comparisons. The findings therefore support a plausible contribution of the programme but should not be presented as definitive evidence that the intervention caused the observed reductions.

The implementation findings may help explain why the health-literacy outcome was not stronger. Process evaluation emphasizes the importance of implementation, context and mechanisms when interpreting programme outcomes [19]. In Happy Village, weaknesses in volunteer selection, supervision, documentation, training, feedback and incentives suggest that the programme was not delivered with full fidelity. These are actionable findings and illustrate why evaluation should be used not only to judge performance but also to improve implementation [18,20].

The use of senior citizens as volunteer change agents remains a potentially valuable feature of the programme. Volunteering in later life can provide social participation and benefits to both volunteers and communities [9]. Nevertheless, volunteer eligibility criteria need to reflect actual availability, health status, motivation and capacity rather than age alone.

5.1 Recommendations

Volunteer-selection criteria should be revised to give priority to availability, motivation and capacity to carry out the expected activities. The programme should establish an explicit supervisory mechanism with clear responsibility at Health Promotion Bureau, Medical Officer of Health, facilitator and volunteer levels.

The documentation and reporting system should be simplified and revised with stakeholder input so that routine monitoring information is complete and useful. Public Health Midwives and other facilitators should receive structured orientation and training on programme objectives, implementation methods and expected timelines, while volunteers should receive practical training on the specific activities they are expected to conduct.

A constructive feedback and recognition mechanism should be implemented as originally planned, including timely provision of promised materials and incentives. A comprehensive monitoring and evaluation system should be embedded in the programme to assess implementation fidelity, reach, health literacy, behaviour change and sustainability over time [22]. Future evaluations should use larger samples, multiple settings and stronger comparison designs where feasible.

5.2 Evaluation limitations

The evaluation covered only one Happy Village setting in the Rathmalana Medical Officer of Health division and used convenience sampling. The quantitative comparison involved 25 programme families and 25 non-member families, limiting statistical power and generalisability. The evaluation also relied partly on self-reported knowledge and household consumption, which may be affected by recall or social-desirability bias.

Baseline consumption values were derived from existing programme records rather than a prospectively designed controlled baseline survey. Consequently, changes in sugar, salt and oil consumption cannot be attributed solely to Happy Village. The health-literacy instrument mainly assessed factual awareness and may not have captured wider functional, interactive and critical dimensions of health literacy. Finally, the evaluation occurred relatively early in programme implementation, before some longer-term outcomes could reasonably be expected.

6 CONCLUSION

The Happy Village project was relevant to Sri Lanka's NCD priorities and was well aligned with national policy, the Sustainable Development Goals and international health-promotion principles. The evaluation did not demonstrate a significant difference in measured health literacy between Happy Village members and non-members, although awareness of NCD risk factors was high in both groups.

The programme households showed lower reported consumption of sugar, salt and oil than at baseline and than non-member families, providing encouraging evidence of contribution to healthier household practices. At the same time, implementation weaknesses in volunteer selection, supervision, monitoring, training, feedback and incentives were identified. Strengthening these processes and establishing a more systematic evaluation framework would improve the programme's ability to achieve and demonstrate sustainable outcomes.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

The authors declare no competing interests.

Statement of ethical approval

Formal ethics committee approval was not required because the work was conducted as a programme evaluation; administrative permission was obtained from the relevant health authorities, and informed consent was obtained from all participants.

Administrative approval

Administrative permission for the evaluation was obtained from the relevant health authorities, including the Regional Director of Health Services, Colombo; the Director of the Health Promotion Bureau; and the Medical Officer of Health, Rathmalana.

Statement of informed consent

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

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