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TRAINING NEEDS OF GRASSROOTS HEALTH WORKERS AND POPULATION COLLABORATORS IN EARLY DETECTION AND SUPPORT FOR CHILDREN WITH AUTISM SPECTRUM DISORDER IN THUAN THANH WARD, BAC NINH PROVINCE

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Abstract: **Autism spectrum disorder is a neurodevelopmental disorder that commonly manifests in early childhood, requires timely detection and intervention. At the grassroots level, health workers and population collaborators have frequent opportunities to interact with children and families, yet they still face difficulties in identifying early signs, counselling parents and making referrals. This article analyzes the training needs of health workers and population collaborators in early detection and support for children with autism spectrum disorder in the community based on a survey of 80 participants in Thuan Thanh Ward, Bac Ninh Province. The study employed a questionnaire survey combined with in-depth interviews and the quantitative data were analyzed using descriptive statistics. The findings show that the counselling and referral capacity of grassroots personnel remained at a moderate level. The highest self-confidence score was found for knowledge of referral procedures and referral addresses (Mean = 3.25) whereas the lowest score was related to guidance on procedures for disability certification (Mean = 2.45). The most prominent training need was communication and psychological counselling skills to persuade parents selected by 97.5% of respondents, followed by information on social assistance policies and reliable intervention service providers selected by 93.8%. The article proposes a practice-oriented capacity-building program that integrates knowledge of autism, family counselling skills, initial screening, referral and resource linkage.**

Keywords: **autism spectrum disorder; early detection; grassroots health workers; population collaborators; training needs; health social work.**

1. INTRODUCTION

Autism spectrum disorder is one of the neurodevelopmental disorders that has received substantial attention in the fields of child health, special education and health social work. According to the DSM-5-TR, autism spectrum disorder is characterized by two core groups of symptoms: persistent deficits in social communication and social interaction together with restricted, repetitive patterns of behavior, interests or activities which emerge in the early developmental period and

cause clinically significant impairment in functioning (American Psychiatric Association, 2022). The World Health Organization estimates that approximately 1 in 127 children worldwide has autism spectrum disorder although reported prevalence varies across countries due to differences in survey methods, diagnostic criteria and access to professional assessment services (World Health Organization, 2025). In the United States, the CDC Autism and Developmental Disabilities Monitoring Network reported that 1 in 31 eight-year-old children was identified with autism spectrum disorder based on 2022 data indicating an increasing need for early detection and supportive services (Shaw et al., 2025).

International studies emphasize that early detection and timely intervention can improve communication, social interaction, adaptive behavior and quality of life among children with autism spectrum disorder and their families (Hyman et al., 2020; Lord et al., 2018; Zwaigenbaum et al., 2015). In pediatric and community health practice, early screening does not replace comprehensive diagnosis but it is an important step in identifying risk, counselling families and referring children to appropriate assessment services. Instruments such as the M-CHAT-R/F have been shown to be useful in screening for autism risk in young children when they are administered correctly and include the follow-up interview after the initial screening (Robins et al., 2014).

In the Vietnamese context, grassroots health services and the network of population collaborators play an important role because they are close to residents and regularly engage with children and families through primary health care, immunization, growth monitoring, health communication and community-based counselling. If equipped with appropriate knowledge and skills, this workforce can contribute to the early identification of atypical developmental signs, reduce delays in referral, support parents in overcoming denial and connect families with health, education, rehabilitation and social welfare services.

From the perspective of health social work, supporting children with autism spectrum disorder is not only a medical issue but also a process of helping families access information, services, policies and community resources. Therefore, capacity building for grassroots health workers and population collaborators through a social work-informed approach is necessary to strengthen early detection, counselling, referral and continuous support for children at risk of autism spectrum disorder.

This article analyzes the training needs of health workers and population collaborators in early detection and support for children with autism spectrum disorder in Thuan Thanh ward, Bac Ninh province and proposes directions for developing a training program appropriate to the grassroots context.

2. RESEARCH CONTENT

2.1. Theoretical Basis and Key Concepts Used in the Study

Autism spectrum disorder is a neurodevelopmental disorder characterized by persistent difficulties in social communication and social interaction as well as restricted and repetitive patterns of behavior, interests or activities. These manifestations appear in the early developmental period and affect children's functioning across different contexts (American Psychiatric Association, 2022; Lord et al., 2018). This understanding emphasizes that autism is a spectrum of diverse manifestations, varying in the level of support needed, language ability, intellectual functioning and adaptive behavior.

In this study, early detection refers to the process of identifying atypical developmental signs or autism spectrum disorder risk in young children through observation, information gathering from families, the use of appropriate screening tools and referral to specialized services when needed. Early detection is not equivalent to a definitive diagnosis, but it is an important initial step in the continuum of care. Clinical recommendations emphasize the roles of developmental surveillance, risk screening, comprehensive assessment and timely referral in which primary care serves as the entry point (Hyman et al., 2020; Zwaigenbaum et al., 2015).

Training needs are understood as the gap between the existing capacity of health workers and population collaborators and the competencies required to effectively perform tasks related to early detection, counselling, referral and support for families of children suspected of having autism spectrum disorder. These needs include knowledge, skills, practical tools, service information, coordination procedures and ongoing professional support.

In this article, grassroots health workers refer to personnel working in commune or ward-level health systems or local primary health care units who directly participate in health care, health communication, counselling and referral. Population collaborators refer to community-based workers who participate in communication, mobilization, monitoring and support for population, reproductive health, child care and family programs in local areas. These two groups are considered important intermediaries between children's families and the specialized service system.

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2.2. Research Methods

The study was conducted in Thuan Thanh Ward, Bac Ninh Province with 80 health workers and population collaborators. These participants were directly or indirectly involved in primary health care, health communication, family counselling and service linkage for children in the community.

The study used a cross-sectional descriptive design combining quantitative and qualitative data. Quantitative data were collected through a questionnaire to examine the self-confidence of health workers and population collaborators in identifying early signs, counselling, referral and training needs. The questionnaire focused on the following groups of content: current capacity, professional attitudes, factors affecting capacity-building activities and needs regarding training content and methods. Several items were measured on a five-point Likert scale.

Qualitative data were collected through in-depth interviews to clarify practical difficulties encountered when approaching families of children suspected of having autism spectrum disorder, experiences in counselling parents, barriers to referral and suggestions for professional support. Quantitative data were analyzed using descriptive statistics, including frequencies, percentages, means and standard deviations. Qualitative data were coded thematically and used to further explain the quantitative findings. The study complied with principles of voluntary participation, confidentiality of personal information and use of data for scientific purposes.

3. RESEARCH RESULTS

3.1. Self-confidence in Counselling and Referral Skills

One important competency of health workers and population collaborators when supporting children suspected of having autism spectrum disorder is the ability to counsel and persuade parents, guide families in accessing services and make referrals when necessary. The survey results indicate that participants' self-confidence was not high; most items were rated at a moderate level.

Table 1. Self-confidence in counselling and referral skills among health workers and population collaborators

Assessment item	Very poor (%)	Poor (%)	Average (%)	Good (%)	Very good (%)	Mean	SD
Ability to persuade parents who deny the problem to take their child for assessment	13.8	25.0	40.0	15.0	6.2	2.85	1.02
Knowledge of procedures and addresses of higher-level health facilities for referral	10.0	15.0	35.0	25.0	15.0	3.25	1.15
Ability to guide basic home-based interaction activities while waiting for intervention	17.5	25.0	37.5	12.5	7.5	2.68	1.08
Knowledge of procedures for guiding families in preparing disability certification documents for children	27.5	25.0	27.5	12.5	7.5	2.45	1.18

The results show that the item with the highest mean score was knowledge of procedures and addresses of higher-level health facilities for referral (Mean = 3.25). However, this was still not a high level as only 40.0% of respondents rated themselves as good or very good. This suggests that some grassroots personnel had certain information about referral but their knowledge was uneven and not sufficiently confident to support families in specific cases.

The ability to persuade parents who deny the problem to take their child for assessment had a mean score of 2.85. This is a practically important skill because denial or delayed acceptance among families is a common barrier in community settings. When parents are not ready to acknowledge their child's developmental risk, health workers and population collaborators need not only knowledge about autism but also empathic communication skills, the ability to provide information without causing alarm and the capacity to encourage families to take action. This finding is consistent with Hyman et al. (2020) who noted that early detection is meaningful only when accompanied by family counselling and timely service linkage.

The two lowest-rated items were the ability to guide basic home-based interaction activities while waiting for intervention (Mean = 2.68) and knowledge of procedures for guiding families in preparing disability certification documents for children

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(Mean = 2.45). These results reflect gaps in post-screening support capacity. Families of children suspected of having autism spectrum disorder need more than the general advice to "*seek assessment*"; they need concrete guidance on where to go, what documents to prepare, what interactions to use with the child while waiting for assessment and how to access support policies.

3.2. Professional Attitudes and Perceived Pressure in Family Counselling

In addition to practical skills, professional attitudes and perceived pressure among health workers and population collaborators influence the quality of family counselling.

Table 2. Professional attitudes and empathy among health workers and population collaborators

Assessment item	Mean	SD
Counselling families of children at risk of autism is highly stressful	4.25	0.72
Feeling confused and afraid of shocking parents when communicating bad news	4.18	0.75
Belief that early intervention before age 3 can substantially improve outcomes for children	4.45	0.65
Awareness that early detection is a responsibility of grassroots health services	4.30	0.68

The results indicate that participants had positive attitudes toward early detection and early intervention. The item "*Belief that early intervention before age 3 can substantially improve outcomes for children*" had the highest mean score (Mean = 4.45). Awareness that early detection is a responsibility of grassroots health services also reached a high level (Mean = 4.30). These findings suggest that health workers and population collaborators recognize the importance of early detection and the role of grassroots services.

However, the high mean scores for items related to pressure and uncertainty reveal a notable paradox. Grassroots personnel acknowledge their responsibility and believe in the effectiveness of early intervention, yet they lack confidence in communicating with parents. The item "*Counselling families of children at risk of autism is highly stressful*" reached a mean score of 4.25, while "*Feeling confused and afraid of shocking parents when communicating bad news*" reached 4.18. Thus, training needs are not limited to specialized knowledge but also include sensitive communication skills, initial counselling skills, and professional emotional management.

3.3. Factors Affecting Capacity-building Activities

The study further examined factors affecting activities aimed at improving awareness and capacity among health workers and population collaborators. The results show that the strongest influencing factors were related to training organization and system-level support conditions.

Table 3. Factors affecting capacity-building activities on autism spectrum disorder

Influencing factor	Mean	SD
Trainers use medical terminology that is difficult to understand	4.54	0.50
One-way teaching methods with insufficient practice	4.51	0.50
Denial and strong negative reactions from children's families	4.49	0.50
Community stigma toward developmental disorders	4.49	0.50
Lack of standardized procedures and screening tools from the Ministry of Health	4.49	0.50
Lack of funding, space, and supporting equipment	3.60	0.88
Limited attention and direction from higher-level leaders	3.40	0.73
Limited foundational knowledge of psychology and special education	3.51	0.91
Traditional beliefs, such as the view that delayed speech is normal	3.49	0.81
Workload pressure and overload at the health station	3.06	0.80

The factor with the highest mean score was trainers' use of medical terminology that is difficult to understand (Mean = 4.54). This result indicates that training content may be professionally correct but not necessarily appropriate for learners if it is delivered in overly academic language with few examples and limited connection to real situations. Given that learners include population collaborators, the use of accessible, visual and community-translatable language is essential.

The second highest factor was one-way teaching methods with insufficient practice (Mean = 4.51). For the topic of autism spectrum disorder, learners need to observe behavioral videos, analyze cases, practice communicating with parents, learn to use screening checklists and discuss referral procedures. This is consistent with Bandura's (1977) social learning theory which suggests that people learn effectively through observation, modelling, feedback and practice in social contexts.

Three factors shared the same mean score of 4.49: denial and strong negative reactions from children's families; community stigma toward developmental disorders and the lack of standardized procedures and screening tools. These are systemic barriers. Grassroots personnel will find it difficult to perform effectively without a unified procedure for identifying risk, recording information, counselling, referral and post-referral follow-up.

3.4. Needs Regarding Training Content and Methods

The survey results on training needs show that health workers and population collaborators prioritized practical content that directly supports their community-based work.

Table 4. Training content needs among health workers and population collaborators

Desired training content	Frequency	Percentage (%)
How to identify early signs in children under 24 months of age	50	62.5
Communication and psychological counselling skills to persuade parents	78	97.5
Practical guidance on using internationally standardized screening tools	41	51.2
Information on social assistance policies and reliable intervention service providers	75	93.8

The highest need was communication and psychological counselling skills to persuade parents selected by 78 out of 80 respondents, accounting for 97.5%. This finding is consistent with the results regarding uncertainty and pressure in family counselling. Grassroots personnel need not only to know the signs of autism spectrum disorder but also to communicate with parents appropriately, avoid causing shock or blaming and still encourage families to seek comprehensive assessment.

The need for information on social assistance policies and reliable intervention service providers ranked second, selected by 93.8% of participants. This reflects the need to expand training content toward an interdisciplinary orientation. Families of children suspected of having autism spectrum disorder often require information about diagnostic facilities, intervention services, special education, rehabilitation, disability certification procedures and support policies. If grassroots personnel lack such information, counselling may remain at the level of general recommendations rather than providing a concrete support pathway for families.

A total of 62.5% of participants selected training on how to identify early signs in children under 24 months of age. This is important because many autism risk signs can be identified early, particularly atypicalities in eye contact, response to name, pointing, joint attention, imitation, pretend play, and social interaction. Practical guidance on using internationally standardized screening tools was selected by 51.2% of participants. The M-CHAT-R/F may be introduced as a relevant example for autism risk screening in young children, but training should clearly explain the target age group, how to ask parents, how to score, and how to proceed after screening (Robins et al., 2014).

Table 5. Needs regarding training methods

Preferred training method	Frequency	Percentage (%)
Listening to theoretical lectures by trainers	18	22.5
Watching videos analyzing children's actual behaviors	80	100.0
Group discussion and role-play to handle resistant situations	78	97.5
Creating peer-support groups on social media for exchange	80	100.0

The results show that 100% of participants selected watching videos analyzing children's actual behaviors and creating peer-support groups on social media for professional exchange. For autism spectrum disorder, videos help learners observe concrete manifestations such as limited eye contact, lack of response to name, repetitive object play, limited joint attention and difficulty with imitation. These behaviors are difficult to visualize if described only verbally, especially for population collaborators who have not received specialized training in child development.

A total of 97.5% of participants selected group discussion and role-play to handle resistant situations. This indicates that learners recognized the greatest practical gap as dealing with communication situations involving parents. By contrast, only 22.5% selected listening to theoretical lectures. The result suggests that theory remains necessary but should be concise, accessible, linked to real cases and directly supportive of practice.

4. DISCUSSION

The findings show a clear need to strengthen the capacity of health workers and population collaborators in the early detection, counselling and support of children with autism spectrum disorder in the community. A notable point is that participants had positive awareness of the role of grassroots services and believed in the value of early intervention, but their practical capacity in counselling, referral, family guidance and policy access remained limited. This reflects a gap between perceived responsibility and task performance capacity in community settings.

This finding is consistent with international recommendations on early detection of autism spectrum disorder. Hyman et al. (2020) stated that care for children with autism spectrum disorder requires a continuum from developmental surveillance, screening, assessment and referral to intervention and family support. Primary care plays an important role because it is often the first point of contact between children, families and the service system. However, grassroots services can fulfill this role effectively only when they are equipped with appropriate tools, procedures and communication skills.

A prominent finding is that the highest training need among health workers and population collaborators was not merely the identification of early signs but communication and psychological counselling skills to persuade parents. This accurately reflects community realities where the key barrier is not only whether personnel can recognize risk signs but also whether they can help parents receive the information, overcome denial and seek assessment in a timely manner. Autism is still associated with stigma, misunderstanding and anxiety; therefore, communication skills that are sensitive to family emotions should be considered a core competency for grassroots personnel.

Regarding training methods, the findings support a shift from one-way knowledge transmission to competency-based training. Participants prioritized video-based situations, group discussion, role-play and peer-support groups over theoretical lectures. This is consistent with Bandura's (1977) social learning theory which emphasizes observation, modelling, practice and feedback as mechanisms for forming new behaviors. Therefore, training programs should combine concise theoretical input, video observation, case analysis, screening practice, role-play in parent counselling and post-training professional support.

The study has several limitations. The sample included 80 health workers and population collaborators in one specific locality so the findings cannot be generalized to all localities. The study mainly used descriptive statistics and some assessments were based on self-reports which may be affected by cognitive bias or social desirability. Future studies should expand the sample size, compare multiple localities, use pre-post intervention designs and include more objective measures of competence.

5. CONCLUSION

The study shows that health workers and population collaborators in Thuan Thanh Ward, Bac Ninh Province had positive awareness of the role of early detection of autism spectrum disorder and believed in the significance of early intervention. However, their practical capacity remained limited especially in counselling parents, guiding families, making referrals, using screening tools and supporting access to policies. Training needs were strongly concentrated on communication and psychological counselling skills to persuade parents, information on policies and intervention service providers, identification of early signs and use of screening tools.

Future training programs should be designed in a practice-oriented and learner-centered manner, reducing one-way theoretical lectures and strengthening video-based situations, group discussion, role-play, case analysis, tool practice and post-training professional support. In terms of content, programs should integrate medical knowledge about autism spectrum disorder with social work skills in family counselling, referral, resource linkage and stigma reduction in the community.

Based on the findings, this article recommends developing concise and user-friendly training materials for health workers and population collaborators on autism risk signs, counselling procedures and referral pathways; establishing a directory of local assessment, intervention and policy-support services; organizing competency-based training courses with screening practice, counselling role-play and professional feedback; maintaining peer-support or online professional supervision groups and strengthening intersectoral coordination among health, education, social work and social protection systems to ensure that children at risk of autism spectrum disorder are detected, referred and continuously supported.

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