

## RESEARCH COLLABORATION COUNTS: ADDRESSING NON-COMMUNICABLE DISEASES IN A COMMUNITY IN FAST TRANSITION, A CASE STUDY ON DIABETES FROM VIETNAM

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### ABSTRACT

**Background:** To meet current and future health challenges, research capacity training and regional and international collaborations are needed. Outcomes of research capacity development and collaboration should be equally valued as research outputs. We report on a research project to enhance Vietnamese and Danish research capacities in non-communicable diseases (NCDs), with a focus on type 2 diabetes (T2D). **Method:** Qualitative, quantitative, and mixed research methods and concurrent training in methods, scientific writing, and field research were undertaken while studying people living with T2D and informal support persons and caregivers (ICGs) such as family, friends and peers in rural areas of Thai Binh Province. Diabetes clubs and research assistants and village health workers were trained for data collection and implementation research, and for running diabetes clubs and other interaction with people living with T2D and their ICGs. **Findings:**

Research training was considered successful in an internal participant evaluation. About 50% more scientific peer reviewed articles than planned are published. Through close communication and collaboration, the project was completed successfully in spite of Covid-19.

**Conclusion:** To develop effective, locally grounded responses to emerging NCDs, resources and potentials of informal health care must be investigated and involved. Research collaboration will probably have long-lasting positive impact on research capacity, competences of the health care system, and patients' health.

**Key words:** research collaboration, informal health care support, non-communicable diseases, type 2 diabetes, Vietnam.

**Abbreviations:** HIC: High-income countries; ICGs: Informal support persons and care givers; LMIC: Low- and middle-income countries; NCDs: Non-communicable diseases; TBUMP: Thai Binh University of Medicine and Pharmacy; T2D: type-2 diabetes; WP: work package.

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### I. INTRODUCTION

Global health and global health research have primarily been Western and Northern driven<sup>1</sup>. Boosting competence of researchers in low- and middle-income countries (LMICs) may foster innovative public health research, independence and local ownership. Research collaboration has often been skewed towards researchers both from high-income countries (HIC) and LMIC publishing in high-impact journals, and down-prioritizing local journals<sup>2</sup>. Impact of

research on health outcomes requires additional assessment<sup>3</sup>. So does impact of research collaboration and capacity development. While LMICs' health research capacity is growing, barriers persist<sup>4</sup>. To overcome these, adequate resources for research capacity training, and regional and international collaborations are needed<sup>5</sup>. Research capacity outcomes need to be equally valued as research outputs.

In most LMIC, including Vietnam, non-communicable diseases (NCDs), with type-2 diabetes (T2D) as a case, are now at level with T2D in a HIC like Denmark. Sharing experiences with interactive research and training may have mutual benefit for LMIC and HIC. Since 2015, Vietnam's health system began decentralizing<sup>6</sup>. As Vietnam enters an epidemiological transition towards a triple-burden of slowly declining communicable diseases, rapidly increasing NCDs, and (re)emerging diseases like Covid-19, gaps in healthcare services across levels are becoming clearer. Patients bypass lower levels like community health stations to higher levels, creating patient overload at higher levels and under-utilization at lower<sup>7,8</sup>. Capacity of the primary health care system i.e. commune health stations for prevention and control of NCDs should be ranked a top priority<sup>8</sup>. Another priority would be to strengthen social support for people living with e.g. diabetes and their informal support persons and care givers (ICGs)<sup>9</sup>.

Here we describe a joint Vietnamese-Danish research capacity development project "Living together with chronic disease: Informal support for diabetes management in Vietnam" (the 'Project'). The Project aimed at advancing research in NCDs by providing new insights on the informal

support people with NCDs receive, with a focus on T2D. The Project furthermore aimed to strengthen research capacities in Vietnam and Denmark, and break new ground in diabetes care by developing innovative models and insights for active involvement of ICGs in day-to-day diabetes management. The Project was aligned with Vietnam's National NCD Strategy (2015-2025) that aims to increase public awareness of NCDs and strengthening the health care system's capacities<sup>10</sup>.

The presentation of the study partly follows "GUIDED – a guideline for reporting for intervention development studies"<sup>11</sup>. The Project<sup>12</sup> argues that to develop more effective and locally grounded responses to the global NCD epidemic, resources and potentials of the informal health care sector (defined as the lay, nonprofessional part of the health care system) must be investigated.

It is our ambition that our experiences may serve as models for further upscaling of North-South research collaboration and multidisciplinary research in NCDs, with the ultimate goal of improving public health.

## II. METHODS

### 2.1 Study area and population and partners

The Project was conducted in Thai Binh province by Thai Binh University of Medicine and Pharmacy (TBUMP) and the Universities of Copenhagen and Southern Denmark. Two rural districts, Quynh Phu District in the northern part and Vu Thu District in the southern part of the district, were purposively selected for the project based on district hospital records showing that these two districts had the highest number of people diagnosed with diabetes.

The Project was conducted in close collaboration with a Danish-Vietnamese Strategic Sector Cooperation Project: “Strengthening the Frontline Grassroots Health Worker: Prevention and Management of NCDs at the Primary Health Care Level”, and with Novo Nordisk, a Danish-based multinational pharmaceutical company, as private sector partner.

## 2.2. Project objectives, plan, output variables and management

The research and development objectives of the Project were: 1) To generate new knowledge about the role of informal social support in everyday disease management among people with T2D, thereby strengthening the basis for development of an intervention programme; 2) to develop, implement and assess a pilot intervention programme that uses mHealth technology and educational workshops to enhance everyday diabetes management, involving both individuals with T2D and their informal support persons; 3) to strengthen the capacities of researchers in Vietnam to conduct interdisciplinary NCD research,

exemplified by T2D, and to communicate the results of their research effectively to wider audiences; 4) to strengthen research collaboration between Danish and Vietnamese NCD researchers; and 5) to disseminate the results of the research to broader audiences, including health care providers/authorities, international organizations, non-governmental organizations, private companies, researchers, and the general public in Vietnam and internationally.

First knowledge on informal social support and care for people living with T2D would be collected and analysed. Based on the findings, a pilot intervention programme involving informal support persons as well as persons with T2D and health workers and assistants would be developed and implemented. Strengthening of research capacity on NCDs, with emphasis on interdisciplinary research and implementation and dissemination of the research results were key areas, cf. work packages in **Table 1**.

**Table 1. Work Packages, Research Tasks and Expected Outputs**

| <b>Overview</b>                                | <b>WP 1</b><br>Ethnographic study | <b>WP 2</b><br>Cross-sectional surveys | <b>WP 3</b><br>Pilot intervention | <b>WP 4</b><br>Research capacity building | <b>WP 5</b><br>Communication & Dissemination |
|------------------------------------------------|-----------------------------------|----------------------------------------|-----------------------------------|-------------------------------------------|----------------------------------------------|
| <b>Research tasks</b>                          |                                   |                                        |                                   |                                           |                                              |
| Development research tools/intervention design | X                                 | X                                      | X                                 |                                           |                                              |
| Data collection & field work (FW)              | X                                 | X                                      |                                   |                                           |                                              |
| Pre-intervention data collection & FW          |                                   |                                        | X                                 |                                           |                                              |
| Pilot intervention & FW                        |                                   |                                        | X                                 |                                           |                                              |
| Health education sessions                      |                                   |                                        | X                                 |                                           |                                              |
| Text messaging system                          |                                   |                                        | X                                 |                                           |                                              |
| Mid-term review                                |                                   |                                        | X                                 |                                           |                                              |
| Post-intervention data collection & FW         |                                   |                                        | X                                 |                                           |                                              |

| Overview                                                                 | WP 1<br>Ethnographic study | WP 2<br>Cross-sectional surveys | WP 3<br>Pilot intervention | WP 4<br>Research capacity building | WP 5<br>Communication & Dissemination |
|--------------------------------------------------------------------------|----------------------------|---------------------------------|----------------------------|------------------------------------|---------------------------------------|
| Data analyses and writing articles (Vietnamese / International journals) | 2/3                        | 2/3                             | 2/2                        | 1/1                                | 1/1                                   |
| Film on pilot intervention                                               |                            |                                 |                            |                                    | X                                     |
| <b>Short courses</b>                                                     |                            |                                 |                            |                                    |                                       |
| Ethnographic methods in NCD research                                     | 1                          |                                 |                            | 1                                  |                                       |
| Epidemiological methods in NCD research                                  |                            | 1                               |                            | 1                                  |                                       |
| Participatory intervention methods                                       |                            |                                 | 1                          |                                    |                                       |
| <b>Meetings/workshops</b>                                                |                            |                                 |                            | 3                                  |                                       |
| <b>Stakeholder meetings</b>                                              |                            |                                 |                            |                                    | 3                                     |

**Table 1** shows details of task and outputs/outcomes of WPs. A total of 18 scientific articles, eight in Vietnamese and 10 in international journals were planned. Furthermore, five short courses in research methodology, and three workshops, one in Denmark, and two in Vietnam. In three stakeholder meetings, all in Vietnam, research plans and results were to be presented and discussed.

In each WP, one to two senior Vietnamese researchers with one to three senior Danish researchers would take lead. Junior Vietnamese researchers were to be involved in all WPs and students particularly in WP1 and WP2. For WP3, research assistants and village health workers would be trained for data collection and implementation research, and for running diabetes clubs and other interactions with people living with T2D and their ICGs. The latter two groups would also be involved in developing, testing, and modifying questionnaires and interview-, information- and teaching materials.

The aimed main output and outcome variables of the Project included successful training of Vietnamese researchers in innovative models of qualitative, quantitative and mixed methods research methodologies

through short courses, workshops, including a scientific writing retreat, and through concurrent field research, to obtain new knowledge of the role of informal support in T2D management. Key indicators included number of papers published in local and international journals, particularly with young Vietnamese researchers as first authors, and number of scientific presentations at conferences. Research communication would include training and dissemination of material for community health care workers and persons living T2D and their peers, and production of a documentary film and written material for stakeholders (see also **Table 1**).

The Project management consisted of the principal investigators from Universities of Copenhagen and TBUMP, and the vice-director of TBUMP, supported by an Advisory Committee with representatives from Vietnam's Ministry of Health, the Danish Embassy in Hanoi, the World Health Organization, and the Novo Nordisk Hanoi office.

Ethical approvals/research permits included an approval by TBUMP, Nov 26, 2018 (No 1209/HDDD).

### III RESULTS

#### 3.1 Process, Progress – and Set-backs

The project began in November 2018 after a signing ceremony. Preliminary research results from WP1 (the ethnographic study) and WP2 (the cross-sectional questionnaire study) were presented in June 2019 at the closing conference of the Strategic Sector Cooperation Project's first phase, and discussed with members of the Advisory Committee, followed by a stakeholder workshop in November 2019. Project management and coordination has taken place on a continuous basis via meetings in Thai Binh, and email exchanges and Zoom meetings.

Based on WP2 results and a participatory workshop, the pilot intervention (WP3) was changed from a mobile Health intervention, because most people living with T2D and caregivers did not have a smartphone or had difficulties with using it. Instead, clubs and -classes for persons with T2D and local health workers were co-created and implemented, supported by innovative patient education materials, and continuous involvement of people with T2D and caregivers.

At a writing retreat in November 2019, detailed planning and adjustments of WPs together with a short interactive course in scientific article writing took place. A publication plan, including proposed key words and titles was jointly developed, and the acronym 'VALID' was chosen for the Project. Thereafter, a stakeholder meeting was held in Thai Binh City, where public media were invited.

In early and late 2020, the Covid-19 pandemic closed down Denmark, and again in early 2021. Three waves in Vietnam were successfully controlled, but in late April 2021 the more contagious Delta variant hit

Vietnam and delayed field research and travel, while scientific articles writing continued, supported by online meetings.

Based on results from WP1 and WP2, the pilot intervention (WP3) was launched in March 2021, with stakeholders and persons with T2D, and local health workers, and authorities. The intervention continued until end 2021. It included 16 diabetes clubs in two purposely selected communes. The clubs were moderated by village health workers and club facilitators trained and supported through diabetes classes focusing on key diabetes management issues.

#### 3.2 Internal evaluation of research capacity building and collaboration in the Project

Knowledge, skills and competencies regarding research methods and tools were evaluated by seven Vietnamese researchers, on a 5-point Likert scale, ranging from 0 to 4. Ten items were evaluated: new approaches to NCD research, research methods, epidemiology, bio-statistic and ethnographic methods and analyses; dissemination of results, project management and scientific writing. A brief (3-4 lines on each item) written evaluation of the five best and the five not so good or missing learnings and experiences was undertaken, followed by discussions headed by one Vietnamese and one Danish senior researcher. Overall, it was positive, with a median of 2.9 and a range of 1-4 (data not shown). The lowest score was from two junior researchers regarding qualitative and quantitative methods, and project management, respectively, since they were not able to take the courses. Courses should be repeated if needed. In the written evaluation, more time for developing questionnaires and teaching materials and for the intervention was requested. Improved

writing skills with many authorships in international journals were praised (**Table 2** and **3**). Experiences via workshop and field visits in Vietnam and Denmark were considered very helpful including for development of a follow-up (VALID II). Learning how to implement and manage

projects while collaborating with colleagues from outside as well as with local communities and families with T2D was valued.

### 3.3. Published papers and other outputs and outcomes.

**Table 2. VALID full publication and dissemination list, and other research and training outcomes and outputs.**

| Categories                                                 | Number |
|------------------------------------------------------------|--------|
| <b>Scientific papers</b>                                   | 27     |
| Articles published in international peer-reviewed journals | 14     |
| Articles published in Vietnamese peer-reviewed journals    | 13     |
| <b>Other forms of dissemination</b>                        | 29     |
| Essay                                                      | 1      |
| Educational sheets, manuals, policy briefs                 | 3      |
| Videos                                                     | 9      |
| Documentary film                                           | 1      |
| Catalogue of intervention training classes                 | 1      |
| Peer support handbook                                      | 1      |
| Prize-winning photo                                        | 1      |
| Case study presentations and conference presentations      | 5      |
| Press reports                                              | 7      |
| <b>Other outcomes</b>                                      |        |
| Short courses                                              | 3      |
| Meetings/workshops                                         | 3      |
| Stakeholder meetings                                       | 3      |

**Table 2** shows the output of peer-reviewed articles, 27. The expected number was only 18 (**Table 1**). About half of the articles are based on qualitative research methods and theories, the other half on quantitative and/or mixed methods, cf. the aims of the training to conduct interdisciplinary and intervention-oriented NCD research. Other research and training outcomes and outputs included a book collecting all scientific articles produced by the Project has been published locally and shared with stakeholders. Research results have been presented at international conferences and used for teaching students in

Denmark and Vietnam. A comprehensive set of patient education materials for people with T2D and for ICGs has been developed and concurrently modified. Videos and posters have been produced from a contest among students in TBUMP. A film has been produced to enhance public awareness of the NCD crisis<sup>11</sup>. All six scheduled short courses and workshops, as well as three meetings in Vietnam and Denmark have taken place, though with some delay. Details on publications may be found at [https://anthropology.ku.dk/research/research-projects/completed\\_projects/\\_living-together-with-chronic-disease/](https://anthropology.ku.dk/research/research-projects/completed_projects/_living-together-with-chronic-disease/)



**Table 3. Distribution of Authorships across Academic Level and Country.**

| Authorship                                                                                                      | Country | 1 <sup>st</sup> Authorships | Last authorships*) |
|-----------------------------------------------------------------------------------------------------------------|---------|-----------------------------|--------------------|
| Academic level                                                                                                  |         |                             |                    |
| Junior Faculty (masters, phds, postdocs and assistant professors)                                               | Vietnam | 15                          | 3                  |
|                                                                                                                 | Denmark | 0                           | 2                  |
| Senior Faculty (Associate Professors, Professors)                                                               | Vietnam | 4                           | 5                  |
|                                                                                                                 | Denmark | 8                           | 12                 |
| *) Number of last authorships lower than number of first authorships due to some papers only having one author. |         |                             |                    |

**Table 3** shows that the majority of the articles has a Vietnamese first author, with an overweight of junior researchers.

### 3.4 Brief on major research findings.

We found that T2D generates a range of social and existential vulnerabilities for both people with T2D and their ICGs, deeply affecting everyday routines, self-perceptions, and relations to others (WP1). T2D is a problem not merely of individual metabolism, but of social metabolism: it affects social connections, often causing moral and emotional distress). Insights from the ethnographic research have also been disseminated through creative venues: the short story “Waiting” was published in Cultural Anthropology’s “fieldsights” section) and the photograph “Perseverance” won a Danish research photo competition (**Table 2**). Key recommendations from WP1 include ensuring that health care interventions take the lived significance of stable family and community belonging into account. Including the ‘end-users’ in co-creation of relevant set ups and appropriate educational materials is recommended.

It was a long process to develop questionnaires and adapt international scales and forms to locally sensible and understandable tools and find out where to hold sensitive interviews with persons living with T2D, their ICGs, and village health workers (WP2). Including informants with T2D in the process and pilot testing proved

essential. Considerable unmet needs for informal support among people with T2D were revealed<sup>9</sup>.

T2D knowledge among ICGs was low, particularly for care of T2D complications. We recommend tailored educational interventions for ICGs. The quantitative and qualitative results were triangulated and used as teaching materials through diabetes classes and clubs<sup>11</sup> in the intervention part of the study (WP3). The intervention was delayed by a few months, due to Covid-19. A catalogue for diabetes classes and an intervention manual have been developed<sup>11</sup>, and several articles produced (**Table 2**). Overall, the intervention had positive effects on knowledge, mental health, diabetes related distress, and life-style towards better T2D management.

### 3.4 Some overarching outcomes and lessons learned

Collaboration between two countries with different cultures, language and traditions requires careful planning, mutual understanding and integration of working. In all phases and steps, Vietnamese and Danish researchers have worked side by side. Staying in touch through regular and frequent online meetings and workshops was essential. Integrating research and training was important. Different steps in the research

(designing tools, collecting data, analyzing, etc.) were opportunities for research training, usually through short courses in connection with the research. These sessions have qualified the research by creating common ground and developing research ideas. While formal and written agreements are vital for collaboration, social interaction is equally important. Team building and mutual understanding were strengthened through social activities in Vietnam and Denmark.

One Vietnamese and one Danish masters' thesis have been written partly on the data, and two junior Vietnamese researchers have been enrolled as PhD students in the Project's Phase II (VALID II). Results have been presented at two international conferences and at a stakeholder meeting, and in three policy briefs (**Table 2**). During a visit to Denmark and workshops, planning a VALID II on informal support in gestational diabetes began<sup>11</sup>.

#### IV. DISCUSSION

Research capacity outcomes need to be equally valued as research outputs<sup>4</sup>. The positive evaluation by the Vietnamese partners support this. The outcome was equally positively evaluated by Danish participants. Output/outcome indicators set at project start included research capacity development through theory and practice, with courses, workshops, hands-on field research and application of qualitative and quantitative methods, data analyses and write up, and publishing of scientific articles, and practical learning material. With few exceptions, the outcomes and outputs were reached, and often surpassed the planned, particularly scientific articles. Covid-19 delayed the process but was an important

learning on how to adapt research to unexpected realities. Two articles were published on experiences and difficulties among people with T2D during Covid-19. The lock-down temporarily interrupted the intervention with diabetes classes and clubs, and possibly negatively impacted some outcomes. **Table 2** and **3** show the number of peer-reviewed articles published in Vietnamese and international journals, authorships by country, and seniority of Vietnamese and Danish researchers. The output of articles was about 50% higher and 1st authorship among Vietnamese authors higher than planned, with more junior researchers.

As observed earlier, "Although research collaboration is usually rewarding, there can be problems in communicating, sharing the workload, and assigning the order of authors in publication[s] ... Avoid[ing] conflict include[s] formal and informal agreements and a good system of communication"<sup>13</sup>. Accordingly, we jointly planned and agreed on potential publications at our first meeting in Thai Binh. For each planned article, we listed first and last authors as well as co-authors. and adjusted when appropriate. Regular updated lists of articles published, submitted and planned were circulated – as were reminders when needed. The Project focused on students and junior researchers' research training. But also senior researchers and teachers were key partners of the collaboration. Exempting these from heavy administrative and teaching obligations undoubtedly increased their participatory planning possibilities and enabled attendance at write-up seminars, workshops and exchange of faculty. Language barriers posed challenges for some Vietnamese researchers in terms of English proficiency. Similarly, all



Danish researchers except one faced difficulty with Vietnamese language. English was the working language except in the field. Mutual understanding in research and culture was eased thanks to the Danish PI having worked for many years in Vietnam, and several Danish researchers previously have undertaken research collaboration in Vietnam. The positive outcome of the Project was also eased by the support from TBUMP leadership and local and central administration, including the Vietnamese Ministry of Health and the Danish Ministry of Development. Regarding lasting capacity building impact, it is too early to evaluate, but a VALID II research capacity building and collaboration project began in December 2022.

Collaboration in research, including in co-publishing across borders is increasing in China and is prevalent in the USA and Europe, while also rising from other parts of the world<sup>5,14</sup>. Development and health in HIC and LMIC are converging, with East Asian and European countries converging the most<sup>15</sup>. Based on Project experiences, we advocate for integrating research into joint major health problems such as NCDs across borders, be it political, geographical or academic, while taking culture and co-creation seriously to enable a valid collaboration and outcomes.

## V. CONCLUSION

Global health research has been Western and Northern driven to a large extent. Boosting the competence of researchers in LMICs is needed. Development and health problems in HIC and LMIC are converging, and NCDs including diabetes are becoming leading causes of disability and death.

Research collaboration has often been skewed towards publishing in high-impact factor international journals also by LMIC researchers. The processes underlying the outcomes of research collaborations and training for the partners and for the societies researched are not well-documented. The present Project demonstrated that integrating training in research methods, writing and practical field research worked well. More articles than planned with more Vietnamese as first author were published. The Covid-19 pandemic enforced delays and changing of some research schedules, but resulted also in articles on the pandemic's effect on diabetes care. A second phase of research collaboration with focus on self-management and informal care in gestational diabetes mellitus is already being undertaken. In brief, research collaboration counts and may have long-lasting positive impact on research capacity, performance of the health care system, and health.

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## REFERENCES

1. Olufadewa I, Adesina M, Ayorinde T. Global health in low-income and middle-income countries: a framework for action. *Lancet Glob Health*. 2021; 9 (7): e899-e900. [https://doi.org/10.1016/S2214-109X\(21\)00143-1](https://doi.org/10.1016/S2214-109X(21)00143-1)

2. **Yegros-Yegros A, van de Klippe W, Abad-Garcia MF, Rafols I.** Exploring why global health needs are unmet by research efforts: the potential influences of geography, industry and publication incentives. *Health Res Pol Syst.* 2020; 18 (1): 1-14.
3. **Adam P, Ovseiko PV, Grant J, Graham KEA, Bouhkris OF, Dowd AM et al.** International School on Research Impact Assessment (ISRIA). ISRIA statement: ten-point guidelines for an effective process of research impact assessment. *Health Res Policy Syst.* 2018; 16: (1) 8. <https://doi.org/10.1186/s12961-018-0281-5>.
4. **Franzen SRP, Chandler C, Lang T.** Health research capacity development in low and middle income countries: reality or rhetoric? A systematic meta-narrative review of the qualitative literature. *BMJ Open* 2017; 7 (1): e012332. [doi.org/10.1136/bmjopen-2016-012332](https://doi.org/10.1136/bmjopen-2016-012332).
5. **Editorial.** *Lancet Reg Health – Southeast Asia.* 2023;9: 100160 <https://doi.org/10.1016/j.lansea.2023.100160>
6. **Nguyen HV, Debattista J, Pham MD, Dao MDM, Gilmour AT, Nguyen S, et al.** Vietnam's Healthcare System Decentralization: how well does it respond to global health crises such as Covid-19 pandemic? *Asia Pac J Health Management* 2021; 16: 619.
7. **Lee HY, Oh J, Hoang VM, Moon JR, Subramanian SV.** Use of high-level health facilities and catastrophic expenditure in Vietnam: can health insurance moderate this relationship? *BMC Health Serv Res.* 2019; 19 (1): 318.
8. **Van Minh H, Oh J, Giang KB, Hoang NM, Huong TTG, Nguyen Van Huy NV et al.** Health Service Utilization Among People With Noncommunicable Diseases in Rural Vietnam. *J Public Health Manag Pract.* 2018; 24 Suppl 2:S60-S66.
9. **Thi DK, Xuan BN, Duc CL, Sondergaard J, Meyrowitsch DW, Bygbjerg IC et al.** Unmet needs for social support and diabetes-related distress among people living with type 2 diabetes in Thai Binh, Vietnam: a cross-sectional study. *BMC Public Health* 2021; 21 (1): 1532. [doi.org/10.1186/s12889-021-11562-6](https://doi.org/10.1186/s12889-021-11562-6).
10. **Vietnam Ministry of Health.** *National Strategy on Prevention and Control of Cancer, Cardiovascular Disease, Diabetes, Chronic Obstructive Pulmonary Disease, Asthma, and Other Non-Communicable Diseases, Period 2015-2025.*, Hanoi. 2014.
11. **Duncan E, O'Cathain A, Rousseau N , Sworn K, Turner KM, Yardley L et al.** Guidance for reporting intervention development studies in health research (GUIDED): an evidence-based consensus study. *BMJ Open* 2020; 10 (4): e033516. [doi.org/10.1136/bmjopen-2019-033516](https://doi.org/10.1136/bmjopen-2019-033516) pp 1-12.
12. Department of Anthropology – University of Copenhagen, Denmark. New intervention to strengthen efforts against diabetes in Vietnam. <https://anthropology.ku.dk/dep/news/2022/new-intervention-to-strengthen-efforts-against-diabetes-in-vietnam/><https://anthropology.ku.dk/dep/news/2022/new-intervention-to-strengthen-efforts-against-diabetes-in-vietnam/> Cited 2025 April 8.
13. **Delgadillo LM.** Best Practices for Collaboration in Research. *Fam Consum Sci Res J* 2016; 45 (1): 5-8. <https://doi.org/10.1111/fcsr.1275>.
14. **National Science Foundation.** The State of U.S. Science and Engineering 2022. <https://ncses.nsf.gov/pubs/nsb20221/u-s-and-global-science-and-technology-capabilities>. [Cited 2024 August 10.].
15. **Paprotny D.** Convergence Between Developed and Developing Countries: A Centennial Perspective. *Soc Ind Res* 2021; 153 (1): 193–225. <https://doi.org/10.1007/s11205-020-02488-4>