

An Integrative Literature Review on Existing Education Programmes for the Improvement of QOL of PLHIV

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Submitted: 2025, Dec 01; Accepted: 2026, Jan 02; Published: 2026, Jan 22

Citation: Mutemwa, M., Phetlhu, D. R. (2026). An Integrative Literature Review on Existing Education Programmes for the Improvement of QOL of PLHIV. *Hypertens OA*, 2(1), 01-14.

Abstract

In this review, existing characteristics of education programmes, which have contributed towards the development of an education programme for the improvement of quality of life (QOL) of people living with HIV (PLHIV) on antiretrovirals (ART) were examined. The research question that guided the study was: What are the characteristics of existing education programmes? All studies which had developed a programme were assessed for relevance. Only articles written in English from January 2010 to 2021 were retrieved and no authors were contacted. Studies that did not develop a programme were excluded. The Boolean words OR and AND were used in conjunction with the following search keywords/statements: programme development and HIV; designing an education programme and HIV; development of a programme and HIV; and education programmes and HIV. Critical appraised checklist tools were employed. Six themes emerged: needs assessment, programme objectives, theory-based methods and strategies, planning and development of the programme, programme implementation and programme evaluation. The 13 reviewed studies all included needs assessment as an initial step in their programme development. Twelve studies included programme implementation as well as planning and development. Of the 13 studies, 11 conducted a programme evaluation and almost half had programmes objectives as their second step. The findings of this review revealed that none of the programmes addressed QOL adequately. This implies that there is no uniform standard in addressing this phenomenon. However, the findings revealed important steps to consider when developing a programme. One may deduce that successful and solid programmes need to employ six steps. Furthermore, similar measured results from existing programmes could be used to develop education programmes that can contribute towards the improvement of QOL of PLHIV on ART.

Keywords: Integrative Literature Review, Education Programmes, QOL, PLHIV

1. Introduction

Enhancing the quality of life (QOL) of people living with HIV (PLHIV) remains a vital component of global health initiatives. Although life expectancy for PLHIV has increased dramatically due to medical treatment improvements, PLHIV continue to experience challenges associated with the virus [1-3]. However, there remains an indisputable need for holistic QOL programmes that address issues that have a negative effect on the well-being of PLHIV. These include environmental, psychological, spiritual and social needs as well as the level of independence and physical

well-being of PLHIV, especially those taking antiretrovirals (ART) as they are essential for ensuring that PLHIV not only survive but thrive [4-6].

Accordingly, personalized education programmes are essential for improving the general well-being of PLHIV, affording them the skills to manage their condition properly and facilitating their social integration. Therefore, by means of a thorough examination of a wide range of studies on existing characteristics of education programmes used globally, this review contributes to the

development of an education programme designed to enhance the QOL of PLHIV on ART. Furthermore, the review sought to inform the development of a holistic, accessible and inclusive educational programme that will empower PLHIV to lead fulfilling and healthy lives as well as lead to a change in behaviours.

2. Materials and Methods

This integrative literature review employed Whittemore and Knafli's steps: i) problem identification; ii) literature search; iii) data evaluation; iv) data analysis; and v) presentation of the findings [7]. An integrative review method was considered appropriate for this study as it provided an overview of current knowledge as well as gaps in the existing programmes, which have contributed towards the development of an education programme

designed to improve the QOL of PLHIV on ART. In addition, the integrative review method was believed to be the appropriate type of research review for this study because it affords the inclusion of different methodologies from experimental and non-experimental studies and employs data based on both empirical and theoretical work [8,9].

The researchers used a flowchart (Figure 1) to demonstrate the selection process for the articles used in this review. The critical appraised checklist for quantitative studies was employed using Bowling's checklist (Table 2) and the quality appraisal checklist tool for qualitative studies used Pearson (Table 3) depicting the selection process and final number of selected articles [10,11].

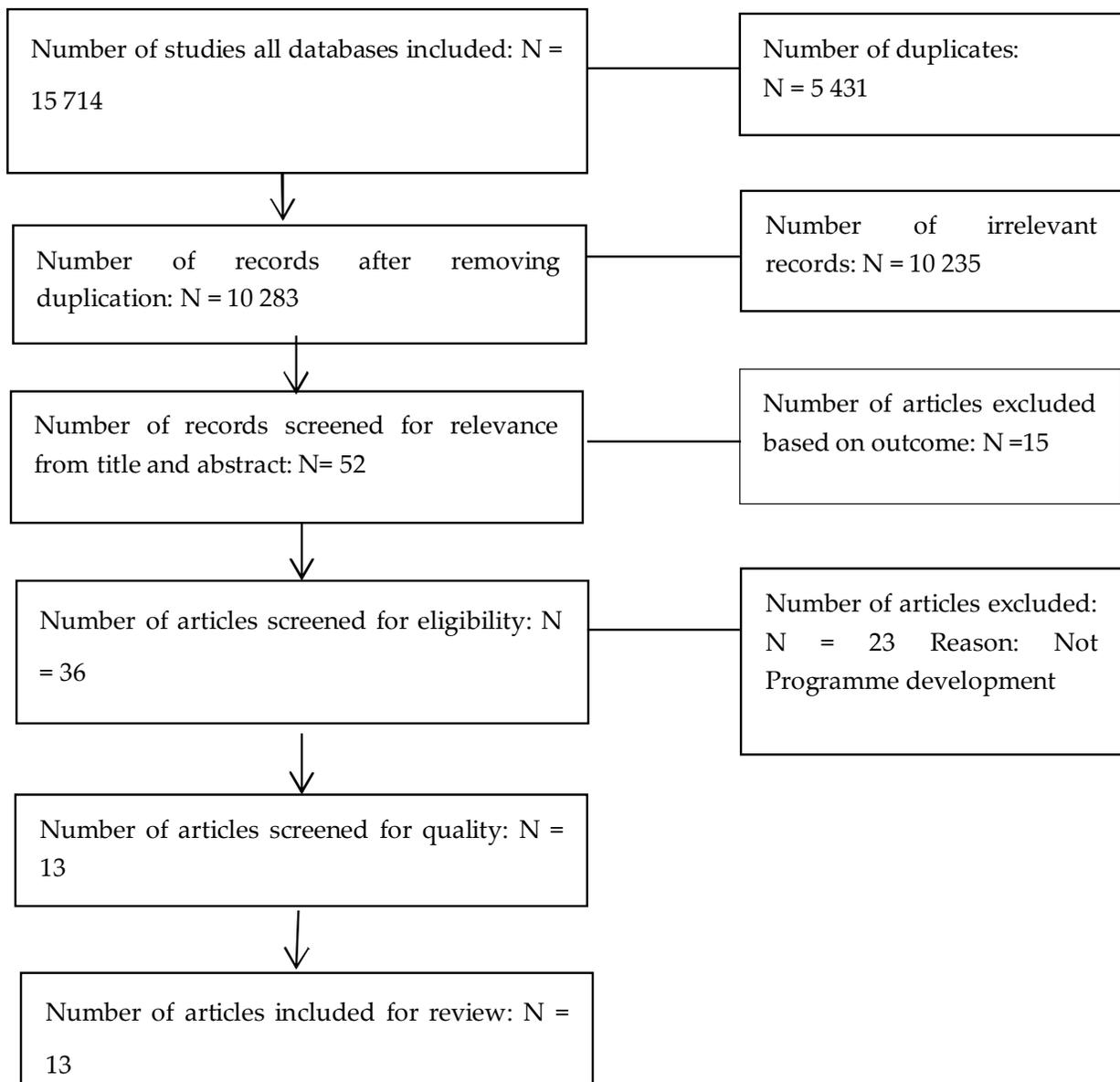


Figure 1: Flowchart Depicting the Selection Process and Final Number of Selected Articles

Author and Year	Visser et al. 2018	Bello et al., 2019	Bello & Pillay, 2019	Reynolds et al. 2016
Criteria: Y (Yes) OR N (No)				
1. Aims and objectives clearly stated	Yes	Yes	Yes	Yes
2. Hypothesis/research question clearly specified	Yes	Yes	Yes	Yes
3. Dependent and independent variables clearly stated	Yes	Yes	Yes	No
4. Variables adequately operationalized	Yes	Yes	Yes	No
5. Design adequately described	Yes	Yes	Yes	Yes
6. Method appropriate	Yes	Yes	Yes	Yes
7. Instrument used tested for reliability and validity	No	Yes	Yes	Yes
8. Sample, inclusion/exclusion and response rate described	Yes	Yes	Yes	No
9. Statistical errors discussed	Yes	Yes	Yes	No
10. Ethical considerations	Yes	Yes	Yes	No
11. Pilot study	Yes	Yes	No	No
12. Statistical analysis appropriate	Yes	Yes	Yes	No
13. Results reported and clear	No	Yes	Yes	No
14. Results reported related to hypothesis	Yes	Yes	Yes	Yes
15. Limitations reported	Yes	Yes	Yes	No
16. Conclusions do not go beyond limit of data analysis	Yes	Yes	Yes	No
17. Findings able to be generalized	Yes	No	Yes	No
18. Implications discussed	No	No	Yes	No
19. Existing conflict of interest with sponsor	No	No	No	No
20. Data available for scrutiny and re-analysis	No	No	Yes	No
Total score for each article	15	16	18	6

Table 1: The Quality Appraisal Checklist Tool for Qualitative Studies (11)

Author and Year	Visser et al. 2012	Naicker et al. 2016	Khumsaen & Stephenson, 2017	Hersche et al., 2019	Corbie-Smith et al. 2012	Nostlinger et al. 2015	Visser et al., 2018	Bello et al., 2019	Bello & Pillay, 2019
Criteria: Y (Yes) OR N (No)									
1. Is there congruity between stated philosophical perspective and research methodology?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

2. Is there congruity between methodology and research question or objective?	Yes								
3. Is there congruity between methodology and methods used to collect data?	Yes								
4. Is there congruity between methodology and representation and analysis of data?	Yes								
5. Is there congruity between methodology and interpretation of results?	Yes								
6. Is there a statement locating the researcher culturally or theoretically?	No								
7. Is the influence of the researcher on the research, and vice-versa is addressed?	Yes								
8. Are respondents and other voices adequately represented?	Yes								
9. Is the research ethical according to current criteria, evidence of ethical approval?	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes
10. Are the conclusions drawn flow from analysis or interpretation of data?	Yes								
Total score for each article	9	9	9	8	9	9	8	9	9

Table 2: The Quality Appraisal Checklist Tool for Quantitative Studies (10)

2.1. Inclusion and Exclusion Criteria

In the literature search, articles and reports, which were relevant to the problem identified under step 1 of this review, were located [7]. A comprehensive search from January 2010 to July 2021 was conducted. It was hoped that this period would provide relevant articles and recent evidence. The time period was selected in accordance with the recent increase in HIV programmes in prevention, treatment, care and support. The selected period also reflects the rapid expansion of ART programmes worldwide and particularly in South Africa. In addition, there were no restrictions with regards to study design and sample size. When full texts were not available, a librarian was contacted at the University of the Western Cape to retrieve those articles.

All studies in which a programme was developed were assessed for relevance. Only articles written in English were retrieved and no authors were contacted. Studies in which a programme was not designed or developed were excluded. Accordingly, those studies in which developed programmes were evaluated and those in which the implementation of a programme were discussed were excluded. In addition, there were no restrictions related to the setting or country in which studies were conducted. Furthermore, studies with mixed target populations in which HIV and other chronic health conditions were assessed were included because of the scarcity of developed programmes, specifically for HIV QOL only.

3. Literature Search

In the literature search, articles and reports, which were relevant to

the problem identified under step 1 of this review, were located [7]. A comprehensive search from January 2010 until July 2021 was conducted on the following databases: MEDLINE, PUBMED, EBSCOhost, Scopus, Science Direct and WHO Global Health Library. It was hoped that this period would provide relevant articles and recent evidence. The time period was selected in accordance with the recent increase in HIV programmes in prevention, treatment, care and support. Furthermore, this period reflects the rapid expansion of ART programmes worldwide and particularly in South Africa. As noted previously, there were no restrictions on study design and sample size. When full texts were not available, a librarian was contacted at the University of the Western Cape to retrieve those articles.

After searching the various databases, 15 714 articles were initially extracted based on their titles and abstracts. However, 5 431 were removed as they were duplicates. The remaining 10 283 articles were screened by analyzing their titles and/or abstracts in accordance with the applicable search terms. After evaluating these abstracts, 10 235 articles were excluded for not meeting the inclusion criterion, namely, the development of a programme. Subsequently, the 52 remaining articles were examined of which 39 studies were excluded. Thus, 13 original articles were considered relevant for the literature review. As noted previously, this process is depicted in Figure 1.

4. Data Evaluation

According to Whitmore and Knaf, evaluating the quality of primary sources by employing the integrative review method in which diverse primary sources are included increases the complexity thereof [7]. The purpose of extraction and synthesis of data in this review was to acquire usable information to report findings related to the characteristics of an education programme. For example, of the 13 articles in this review, four employed a qualitative approach [12-15]. While two applied the intervention mapping and qualitative approach to develop their programmes [16,17] the other studies only used intervention mapping [16-20]. Three studies employed qualitative and quantitative approaches and one utilized a quantitative approach only [21-23,25].

The data extracted from each of the final articles were entered into a spread sheet to visualize any patterns and obtain an overview of the content thereof. This included authors, year of publication, setting, objective, study design, respondents and sample size, data collection, results, conclusion, limitations and recommendations (Table 4).

The focus of this integrative review was to acquire evidence from existing studies to realize a broad view of the stated question, which would assist the researcher to design education programme for the improvement of QOL of PLHIV on ART in the Johannesburg Metropole.

No.	Author	Setting	Title of the Study	Type of Programme	Sample, Size and Technique	Data Collection	Data Analysis	Results	Conclusions/ Recommendations
1.	Corbie-Smith et al. (2012)	USA	Development of a multilevel intervention to increase HIV clinical trial participation among rural minorities	A multilevel intervention to increase HIV clinical trial participation	Sample and size: service providers who provided direct clinical care and services to PLHIV (N=40) and PLHIV (N=35), respectively Sampling technique: not stated	Focus group discussions and individual interviews	Not clearly described	Intervention mapping (IM) afforded a smoother translation of relevant materials from the SP sessions to the PLHIV sessions and vice versa.	The IM approach yielded a comprehensive multilevel intervention that can be adapted to fit other contexts. Programme adaptation can be facilitated easily, considering the detailed, systematic layout of each planning step to attain final programme materials. IM short courses and intensive seminars are also being employed and may be beneficial to public health professionals with limited expertise in this area.

2.	Visser et al. (2012)	South Africa	Development and piloting of a mother and child intervention to promote resilience in young children of HIV-infected mothers in South Africa	Child intervention to promote resilience in young children	Sample and size: HIV-positive mothers (N=45) Sampling technique: purposive sampling	Focus group discussion	Thematic analysis	The focus group interviews revealed another facet of treatment adherence – patients’ lack of knowledge about ART adherence. Patients had been told that not taking their pills as prescribed would lead to resistance but did not fully understand how resistance developed and how missing one pill occasionally could contribute to this. The importance of daily pill-taking was difficult for patients who did not feel ill, but experienced medication side-effects to acknowledge. Although adherence in some patients deteriorated over time (before the intervention) as HIV-related symptoms diminished, the side-effects of the medication increased. This has also been reported by other researchers (Simoni et al., 2008).	The pilot implementation and formative evaluation of the intervention reported in this study provided insight into the psychosocial needs of children affected by HIV and taught lessons related to mother and child interactions and experiences in the HIV context that can be valuable in other settings, both in Sub-Saharan Africa and elsewhere.
3.	Laisaar et al. (2013)	Estonia	Developing an adherence support intervention for patients on antiretroviral therapy in the context of the recent IDU-driven HIV/AIDS epidemic in Estonia	Adherence support intervention	Sample and size: patients attending the Infectious disease department ≥ 18 years of age (N=150) Sampling technique: convenience sampling	Focus group interviews and questionnaires	1. Framework-Guided Analysis 2. Thematic Analysis of Qualitative Data 3. Triangulation Across Data Sources 4. Identify Behavioral Determinants 5. Translate Findings Into Intervention Targets	Focus groups identified key obstacles to ART adherence, including time restraints, substance abuse, side-effect worries, and low perceived need, as well as enablers including routines, family support, and reminder systems. A customized, nurse-led strategy utilizing education and motivational counseling was developed in response to knowledge gaps and inconsistent provider counseling; it is currently being tested in a randomized trial.	With limited publication data on interventions for ART adherence support for patients receiving ART in Europe, the research contributes to one possible intervention development approach and resulting intervention, currently under evaluation. Intervention mapping strategies provided an excellent framework for applying formative research/elicitation work, existing literature and multidisciplinary input into the development of an intervention programme for PLWH in Estonia, which if effective, has possible applications in further development of HIV/AIDS treatment services in Estonia and potentially in neighboring countries with similar socioeconomic and HIV epidemic evolution.

4.	Nos- tlinger et al. (2015)	Eu- rope	Develop- ment of a theory-guid- ed pan-Eu- ropean comput- er-assisted safer sex intervention	European computer-as- sisted safer sex interven- tion	Sample and size: men who have sex with men (N=898) and heterosex- ual men (N=651) Sampling technique: cross-sec- tional study	Surveys, focus group dis- cussions, in-depth interviews, self-re- ported question- naires	Not clearly described	Intervention mapping provided a useful frame- work for developing a coherent intervention for heterogeneous target groups, which was feasi- ble and effective across the cul- turally diverse settings.	This study contributed to the evidence base of (short- term) effective behavioural sexual health interventions. It is the first study of its kind in a pan-European setting. Accordingly, the interven- tion may serve as one pillar of effective combination prevention strategies, as recommended by UNAIDS.
5.	Naicker et al. (2016)	South Afri- ca	Develop- ment and pilot evalua- tion of a home-based palliative care training and support package for young children in Southern Africa	A home-based palliative care training and support package	Sample and size home- based care workers (N=28) Sampling technique: not stated	Semi- structured interviews	Thematic analysis	An initial evaluation of the training and support package was positive, showing support for both the content and the structure of the package as well as the inclusion of stories to help deliver key messag- es that are crucial to the provision of palliative care. Since launching of the package, there have been widespread calls for its wider dissemination.	One of the main strengths of the package is it can be used in its entirety or the in- dividual components can be used separately as resources and need dictates. A unique element is the use of stories to facilitate the training. There is a story for each important message to make it easier to under- stand and remember. The stories could be replaced by other locally relevant stories with the same mes- sage. Although the package is most valuable as a whole, parts of it can be used separately.
6.	Reyn- olds et al., (2016)	Theo- retical article	A road map for design- ing and im- plementing a biological monitoring programme	Theoretical article	Sample and size: theoret- ical article Sampling technique: not stated	Theoret- ical article	Quantitative approach	Theoretical article	The road map is a guide to the overall process, a reminder to examine the entire situation, even when dealing with technical details. It provides a set of benchmarks (steps) that can be used during the design phase to keep projects on track, schedule statistical consultants, prepare budgets and plan programme evalua- tions for existing monitor- ing projects. It does not address all the underlying technical details of each step. Specific guidance can be found in the appropriate literature for each component or task. The road map helps ensure the value of monitoring information, in the present and future.

7.	Khum-saen & Ste-phenson (2017)	Thailand	Adaptation of HIV/AIDS self-management education programme for men who have sex with men in Thailand: an application of the ADAPT-ITT framework.	Self-management education programme	Sample and size: HIV-positive Thai MSM (N=40) and healthcare providers (N=8) Sampling technique: not stated	Focus group discussion	Logistic regression analysis	Findings revealed that respondents were aware of the problem related to internal and external stigma that interfere with HIV status disclosure in the workplace and at home, particularly that associated with the impact on HIV treatment and disease progression. Findings from the theatre test indicated changes to the stages of HIV/AIDS in order to maximize participant understanding.	The study provides a strong foundation for future research on HIV/AIDS self-management in HIV-positive Thai MSM. This study has the potential to fill a significant need for evidence-based, self-management interventions purposefully designed for PLWH. The development of the HASMEP using a health centre-based phased, emergent study design offers a helpful model for further research on adapting evidence-based interventions for vulnerable populations.
8.	Mevis-sen et al. (2017)	Switzerland	Development of Long Live Love+, a school-based online sexual health programme for young adults. An intervention mapping approach	Online sexual health programme	Sample and size teachers (N=14), social workers (N=2), experts on young people's sexual health (N=4), experts in intervention mapping (N=3) and public healthcare workers (N=2) Sampling technique: not stated	Brainstorming and literature reviews	Not clearly described	Teachers emphasized the need for a programme that would be flexible enough to adjust to different classroom circumstances. The involvement of teachers in all steps of the developmental process was invaluable, often more valuable than the involvement of young people themselves. Teachers were very positive and enthusiastic about the idea of having a newly developed sexual health programme for their students, offered valuable suggestions and ideas and did not demonstrate any reservation in delivering such a programme themselves. On the contrary, the students did not have very strong or clear opinions on what they liked or did not like or what they considered important.	Intervention mapping is a useful tool for the systematic development of a multi-component and multi-module school-based online sex education programme. It is important to stress that LLL+ should not be implemented in contexts other than Dutch secondary schools without first exploring whether the programme satisfies local needs. In other words, adjustments may be needed, for example, regarding the specific content of the change objectives (young people in different settings may need different knowledge, skills and/or attitudes) and not all methods used in LLL+ may be suitable in other contexts.

9.	Millard et al. (2018)	Australia	The systematic development of a complex intervention: Health Map, an online self-management support programme for people with HIV	An online self-management programme	Sample and size: people with HIV (N=300) and HIV care providers (N=107) Sampling technique: not stated	Concept mapping workshops, online surveys and interviews	Not clearly described	Grounding the development of Health Map on a clear conceptual base. Informed by the research literature and stakeholders' perspectives has ensured that the Health Map programme is targeted, relevant, provides, transparency and enables effective programme evaluation.	The use of a systematic process for intervention development facilitated the development of an intervention that is patient-centered, accessible and focuses on the key determinants of health-related outcomes for people with HIV in Australia. The techniques used here may offer a useful methodology for those involved in the development and implementation of complex interventions.
10.	Visser et al. (2018)	South Africa	Development and formative evaluation of a family-centred adolescent HIV prevention programme in South Africa	Family-centred adolescent HIV prevention programme	Sample and size: community workers (N=25) and family-pair groups (N=12) Sampling technique: not stated	Focus group interviews	Not clearly described	Results highlighted the need to enhance training content related to cognitive behavioral theory and group management techniques as well as increase the cultural relevance of activities in the curriculum. Participant attendance challenges were also identified, leading to a shortened and simplified session set. Overall findings were used to finalize materials and guidance for a revised 14-week group programme consisting of individual and joint sessions for adolescents and their caregivers, which may be implemented by community-based facilitators in other settings.	Specifically, future efforts to develop structured, family-centred adolescent HIV prevention programmes in Southern Africa should integrate participatory, multi-stakeholder approaches to curriculum and implementation review. Programme developers should pay special attention to the issues raised in this study, such as the need for an array of strategies to support participant attendance and identify attrition as early as possible, the likelihood that activities included in curricula successfully implemented elsewhere may not be universally well-received or effective, differing responses to elements of the programme targeted towards caregivers and adolescents, and the importance of consulting with facilitator trainees regarding the adequacy of training and related materials.

11.	Hersche et al. (2019)	Netherlands	Development and preliminary evaluation of a three-week inpatient energy management education programme for people with multiple sclerosis-related fatigue	Energy management education programme	Sample and size: occupational therapist (N=3), people with multiple sclerosis (N=12) Sampling technique: purposefully heterogeneous sampling	Focus groups	Content analysis	Between March and June 2017, every OT guided every part of the IEME programme at least once. In total, they completed 24 individual and 15 group sessions. Based on the record sheets, the OTs reported high treatment fidelity, with the completion of 83% of all described tasks in the manual.	This study revealed the feasibility of the IEME programme in an inpatient setting and the value that respondents attribute to peer exchange. The group intervention with peers is a powerful element in health promotion and is considered a key aspect in the self-management of people with chronic diseases. Consequently, health professionals and rehabilitation institutions should make an effort to guarantee patients the benefit of well-designed group therapies, even if this is an organizational challenge. Based on the findings of this study and the developed materials, it is possible for other rehabilitation centres to implement inpatient education for people with MS-related fatigue and to support an effective knowledge transfer into practice, ensuring the principles of IEME are shared with multidisciplinary teams to support behavioural change.
12.	Bello et al. (2019)	Nigeria	Development, implementation and process evaluation of a theory-based nutrition education programme for adults living with HIV in Abeokuta, Nigeria	A theory-based nutrition education programme	Sample and size: adults living with HIV (N=243) Sampling technique: convenience sampling	An interviewer administered questionnaire and conducted focus group discussions	Stata statistical software (release 10, 2007). Thematic analysis	The qualitative results identified a lack of knowledge on planning varied meals with limited resources. The identified needs, existing guidelines and literature were integrated with appropriate constructs of social cognitive theory (SCT) and the health belief model (HBM) into the NEP. The NE manual, participants' workbook, flipcharts and the brochure were tailored to address the identified challenges.	The respondents' perceptions of the presentation of the programme showed that the education sessions were informative and interesting. Several factors may have contributed to these positive responses. Experts have confirmed that the facilitator, the mode and the format of NE delivery play a vital role in the effectiveness of the implementation of a NEP. The use of group education, which was reported to be easier, cheaper and require less skill or professionalism than individual counselling (26) may also have contributed to the acquisition of knowledge.

13.	Bello & Pillay (2019)	South Africa	An evidence-based nutrition education programme for orphans and vulnerable children: protocol on the development of nutrition education intervention for orphans in Soweto, South Africa using mixed methods research	An evidence-based nutrition education programme	Sample and size: students (N=520) Sampling technique: not stated	Photo-voice, photo-assisted focus group discussions and questionnaires	Data were analyzed using the Release 10, 2007 of Sta-ta Statistical Software and SPSS packages.	This study provided detailed information on QOL, food intakes concerning academic performance and general well-being of OVC in an Africa setting. The participatory mixed methods nature of the study provided valuable insights into the drivers and challenges to QOL AP and nutritional status of this group. This approach will assist policymakers and other stakeholders in decision-making regarding the general well-being of orphans and vulnerable children	The involvement of stakeholders (the caregivers/families of the OVC) in the development of the NEP will enhance programme ownership and good will to support the continuation of the programme even after the study. Training the caregivers/families of the OVC using educational materials and involving them in the delivery thereof will empower them to continue with the programme even after the study
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Table 3: Summary of Reviewed Articles

5. Data Analysis

In this review, all the primary articles were read multiple times to obtain an overview of the content. Subsequently, the findings of each article were examined to determine if they were in accordance with the research question. A comparison of the articles revealed that while some elements thereof differed, others were similar. Accordingly, when patterns were identified, they were coded.

During this stage of the review, a data comparison involving the identification of themes and assembling of the data in relation to the identified themes and/or related subgroups was conducted (Table 5). In the final step of this review, which involved verifying the identified patterns, relationships and commonalities with the primary source data for accuracy, were drawn.

Themes		Studies
1	Needs Assessment	13
2	Programme objectives	6
3	Theory based-methods and strategies	5
4	Planning and development of programme	12
5	Programme Implementation	12
6	Programme Evaluation	11

Table 4: Identified Themes and Number of Studies

6. Findings

Six main themes related to the characteristics of existing programmes emerged: needs assessment, programme objectives, theory-based methods and strategies, planning and development of the programme, programme implementation, and programme evaluation. The characteristics of the developed programmes differed in most studies, ranging from general to detailed programme development steps. While some studies included the programme contents, others did not. However, the general characteristics at the baseline phase were similar, including the final programme development phase. As noted previously, the six themes are presented in Table 4.

6.1. Demographics of Studies

Of the 13 articles, 4 were conducted in South Africa and the rest in Australia, Estonia, Nigeria, Thailand, USA, Switzerland and several countries in Europe. However, one study did not note the setting. While eight of the studies developed programmes for PLHIV, four studies developed programmes for other groups such as orphans and vulnerable children, a family-centered programme, young people 15 years and older, and people with multiple sclerosis [13-23]. One article comprised theoretical literature and included a detailed process on development of a programme [7].

6.1.1. Needs Assessment

Needs assessment was a common theme that emerged in the

review. It appeared as though the programmes that comprised needs assessment were functional. This step of programme development was imperative so as to understand the perceptions and needs of the target populations in the various studies in this review. In addition, a needs assessment was conducted to inform future activities in their programmes and to explore whether the programmes would meet the needs of the target population under investigation. These needs of the various target groups guided and influenced the next step of programme development. This either involved the identification of the programme objectives or planning and programme development. The needs assessment step is important because it assists programme developers in determining what is preventing it from reaching its desired goals [7].

6.1.2. Programme Objectives

In this review, programme objectives appeared very early in the programme development phase, between the needs assessment and planning and programme development steps. However, the findings of this review revealed that almost half of the studies included programme objectives. Furthermore, three studies had more than one research objective [16, 19, 17].

Corbie-Smith et al. revealed that programme objectives are imperative for a programme to be successful [16]. Programme objectives ensure that programme developers acquire insights that are relevant, useful, and assist in creating strong, achievable overall goals of the identified problem. The findings of the review reveal that programme objectives help programme developers to narrow the focus of their programmes and key variables, and accordingly, guide them through the programme development steps [16,17,19,20]. One may deduce that the omission of these steps in programme development may contribute to a lack of focus in the programme development steps.

6.1.3. Theory-Based Methods and Strategies

Theory-based intervention methods and strategies in this review were linked to the learning objectives listed in step 2 [24]. The findings revealed that this step of programme development involved specifying intervention methods and practical strategies for achieving each learning objective (Corbie-Smith et al., 2012). Although only five studies included this step, it did not appear to be important. Studies that did not have theory-based intervention methods were successful. However, if this step is included in the programme development steps, it may assist significantly in achieving the programme objectives [16,19].

6.1.4. Planning and Development of the Programme

The findings revealed that this step integrated the needs assessment, programme objectives, theory-based methods and strategies into a comprehensive programme. Mevisen et al. reported that the methods and applications selected in step 3 were combined into the final programme [19].

The review also found that members of the linkage group were asked for feedback on the final programme structure, such as the

Delphi techniques, the community for which it is designed, and service providers [18]. The findings further revealed that this step is imperative in programme development as planning reduces the risks of uncertainty. The review also found that this step contributes robustly to those that are required to implement the programme [19,17].

6.1.5. Programme Implementation

The findings of this review revealed that this step assists in ensuring a programme works [19]. The use of strategies to adopt and integrate the developed programme into clinical and community settings in order to enhance patient outcomes and benefit the health of communities for which they were designed was noted. Furthermore, the findings showed that the studies sought to understand the behaviours of healthcare professionals, caregivers, healthcare organizations, healthcare consumers, family members and policymakers as important influences on the adoption, implementation and sustainability of the developed programmes [19,17]. It may be concluded that if a programme is poorly implemented, its goals are unlikely to be achieved, and the results will not carry much significance [17].

6.1.6. Programme Evaluation

This step of the review involved a disciplined and systematic inquiry that was conducted to collect information about the activities, characteristics and outcomes of programmes that were developed and further make judgements thereof [19,17,23]. The findings of the review indicate that this was done to enhance the effectiveness of programmes and inform decisions about future programming [13,17]. It may be concluded that this final step is very important as it strengthens the quality of programmes and improves the outcomes for the target population.

7. Discussion

In this review, the characteristics of existing programmes were explored. Six themes emerged: needs assessment, programme objectives, theory based-methods and strategies, planning and development of the programme, programme implementation and programme evaluation. This integrative literature review revealed important steps to consider when developing a programme. Accordingly, it is imperative to consider these six themes to realize solid and successful programmes. However, theory-based intervention methods and strategies are not always used in successful programmes. Nonetheless, these six steps were employed in this review in developing an education programme for PLHIV on ART in the Johannesburg Metropole.

It is important to consider the context in which some of these studies were conducted, which may not be applicable to other settings. Some of the were conducted in Europe, Australia, Switzerland, Netherlands, Thailand, Estonia and USA, which have different cultural backgrounds to Nigeria and South Africa. Consequently, the beliefs, cultural values and religious views, which have may affect the QOL of PLHIV, may differ. Despite the different settings and studies conducted on the development of programmes, many of the themes were similar. However, there is a need to develop

context specific education programmes, which will concur with the context and culture of a specific region in order to address the QOL in that region. One may deduce that contextualization is a characteristic of a good programme.

It is also imperative that the strengths and limitations of the results of the review need to be acknowledged. It is evident from the review that programmes with similar measured outcomes that already exist could be leveraged to create education programmes that result in consistent and permanent behaviours for PLHIV on ART. In addition, the development of an education programme may only be realized if there was a clear understating of existing characteristics, which led to the design of a context-based education programme for the improvement of QOL of PLHIV on ART.

8. Study's Limitations

This integrative literature review has a few limitations. The review demonstrated that there is a dearth of research on existing education programmes in all the databases that were searched. Thus, the researcher struggled to find generally accepted results on education programmes to improve QOL of PLHIV on ART. The inclusion of other studies that focused on the development of programmes for other chronic diseases assisted in overcoming this limitation. However, the latter may not have been context specific for PLHIV on ART. Furthermore, if the exclusion criteria had not been as strict, the nature and results of this review may have been different. Nevertheless, the researcher found that all the reviewed articles were of high informational value, focused on the phenomenon of interest and were relevant to the aim of the study.

9. Conclusions

The findings of this review demonstrated that in the articles searched and reviewed, no programmes adequately addressed QOL. This implies that there is no uniform standard in addressing this phenomenon. However, the results revealed important steps to consider when developing a programme. Therefore, to realize a successful and solid programme, it is imperative to consider the six themes. It is also evident from the review that similar measured results from existing programmes can be used to develop education programmes that can contribute towards the improvement of QOL of PLHIV on ART.

Recommendations

It is imperative to explore the possibility of a wide-scale implementation of education programmes for QOL enhancement and testing in real life for usefulness and generalizability globally and in South Africa. In addition, there is a need to develop a context-specific education programme which will be in line with the context and culture of a specific region in order to address QOL in that region, considering that studies have been conducted in Austria, Estonia, USA, Nigeria and Thailand. Moreover, it may be essential to develop a specific instrument as QOL may be context-specific. The widespread development of education programmes designed to improve the QoL of PLHIV on ART is relatively new. The researcher is of the view that future studies should focus on this specific challenge. Finally, it is important to negotiate and establish

joint appointments in which specialist nurses in practice with HIV research serve as promoters and co-promoters of improvement of QOL and not only with a clinical focus.

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