

Effectiveness of digital innovation of WhatsApp communication to promote positive health behaviour in nurses with back pain.

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Abstract-

Background: The importance of back pain disability is increasing in the field of nursing, as it is believed to be a major cause of decreased work performance, which affects patient safety and their health care outcomes. However, nurses with back pain often use passive methods, such as pain medication and sick leave, to alleviate the effects of back pain. But, these have potential side effects such as addiction and stress on the health system due to absence from work. We assessed the effectiveness of a digital innovation on WhatsApp communication to encourage positive health behaviours among nurses with back pain, aimed at reducing the burden of back pain disability in Zambia.

Methods: This was a pre-post-test single sample design. Using SPSS version 27, descriptive analysis of the demographic data was conducted, and the Chi-square analysis was used to examine significant differences between the demographics before and after the campaign. For all analyses, the significance level was set at 0.05.

Results: Statistically significant differences were observed in professional work settings ($p < 0.05$). There were no significant differences in the participant's age, gender and work hours, before and after the campaign ($p = 0.26$). Results on back beliefs revealed that six out of the 14 back belief items had undergone significant positive changes and all secondary outcomes relating to the duration of back pain, sick leave, and doctor visits for back pain significantly improved.

Conclusion: The 12-week back pain campaign using WhatsApp messaging encouraged participants to take control of their own pain management through the use of contextualized, evidence-based back pain messages. Some of the back beliefs were significantly altered as a result of the campaign and the use of painkillers and healthcare services for back pain decreased as a result of the increased knowledge about back pain and the resulting changes in beliefs and abilities to self-manage.

Key words: Nurses; back pain; digital innovation; WhatsApp; participant activation; self-management.

INTRODUCTION

Back pain imposes a considerable burden on individuals, society and the health care system (Husky et al., 2018). It is a leading cause of global disability and a leading driver for individuals to seek primary healthcare (Nkhata et al., 2016). Globally over 1.7 billion individuals are alleged to be living with back pain (Bwalya et al., 2022). It is the most common cause of documented sick leave and also reduces work productivity (Traeger et al., 2019; Nkhata et al., 2019). Its impact is worse in low- and middle-income countries (LMICs) than in high-income countries due to poorly controlled workplaces, inadequate occupational health policies, limited opportunities to change jobs and a lack of social support systems (Nkhata, 2021). Thus, low back pain is an important factor in the cycle of disability in LMICs, as it is common and expensive to treat in already overburdened health systems (Traeger et al., 2019; Nkhata et al., 2020).

Nurses are often at high risk of back pain because they perform strenuous, repetitive physical tasks, often in uncomfortable positions and for long hours (Freimann et al., 2015). The importance of back pain disability is therefore increasing in the field of nursing, as it is believed to be a major cause of decreased work performance, which affects patient safety and their health care outcomes (Nkhata, 2021). Workplace attitudes of nurses with back pain disabilities are also often unhelpful (Aikman et al., 2020). This is because nurses with back pain often use passive methods, such as pain medication and sick leave, to alleviate the effects of back pain. However, these have potential side effects such as addiction and stress on the health system due to absence from work (Traeger et al., 2019). However, back pain disability in nurses can be prevented and/or managed through evidence-based public health policy, workplace interventions and self-management (Nkhata et al., 2022). Therefore, it is important to find out cost-effective and situation-specific prevention and management techniques (Hartvigsen et al., 2018). To this end, back pain media campaigns that present current evidence and self-management strategies appear to be effective in improving back pain attitudes (Nkhata et al., 2019), but are relatively new in Africa (Nkhata, 2021).

Self-management is recommended for persistent health problems, including back pain (Crowe et al. 2010; Dickson and McDonough 2018). Self-management refers to people's efforts to live with a chronic illness (Patel et al. 2019; Taylor et al. 2016). Education and behaviour change are used to encourage people to take an active role in managing their health and reduce the negative effects of the condition on their physical activity and well-being (Patel et al. 2019; Taylor et al. 2016). People are given the tools they need to increase their awareness and understanding of their health needs and take active control over their health (McCabe et al. 2018). Effective self-management for back pain requires that people with relevant knowledge, skills and beliefs actively participate in decision-making and health care (Ahn et al. 2015; Green and Hibbard 2012; McCabe et al. 2018). The paper reports on the effectiveness of a digital innovation on WhatsApp communication to encourage positive health behaviours among nurses with back pain, aimed at reducing the burden of back pain disability in Zambia, LMIC (Nkhata, 2021). Digital innovations employs use of modalities such as virtual reality tools and mobile phones to mention a few that can bring knowledge into practice and can also provide effective interactions independent of physical location (Turolla et al., 2020). In addition the digital tools fosters client's empowerment through education and advance treatment by behavioural modification in an engaging relevant manner (Martínez de la Cal et al., 2021). Further, use of digital tools have a potential of minimising unique ethical issues encountered associated with the management of back pain especially in physiotherapy practice (Chileshe et al., 2016).

METHODOLOGY

Our study was conducted using a pre-post-test single sample design. This design is used when conducting a randomized control trial (RCT) is not ethically possible or when logistical constraints exist (Harris et al. 2006). This design was chosen to avoid cross-contamination due to the nature of the method, as the participating hospitals were relatively close to each other. Furthermore, other hospitals in the region were not comparable because of differences in the level of care and the intensity of services and resources, such as personnel, compared to the participating hospitals. The choice of design was based on the methods used in similar campaigns (Buchbinder et al. 2008; Hoy et al. 2010) hence it was useful in establishing general trends and reducing the time and resources required for testing. This design also helped highlight the impact and benefits of the intervention on the study population because of the pre- and post-intervention measurements (White and Sabarwal 2014).

Study setting

The study was conducted in four primary public health facilities in Lusaka, Zambia. These facilities are resource-limited and provide inpatient and outpatient services, including public health programs such as COVID19 vaccinations, Tuberculosis, human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) programs (LDHO 2022). They were purposefully selected as study areas because they were functionally similar, easily accessible, and had a significant number of nurses working there.

Sample size and sampling method

The study population involved all nurses working in the four health facilities, regardless of their back pain status at the time of the study. Approximately 460 nurses worked in these institutions at the time of the study (LDHO 2018). It was assumed that most nurses would experience back pain at some point in their working life (Richardson et al. 2019). Therefore, the primary results were applicable to all, irrespective of their back pain status at the time of our study. A sample size of 322 was determined using McNemar's test with 80% power and 5% significance level for pairs to determine a difference of 0.10 (Dhand and Khatar 2014). The head nurse registries helped to identify and recruit the nurses working in different departments of the hospital who were available to participate in our study.

Intervention description

The intervention was a 12-week educational campaign delivered using WhatsApp video messaging. Information delivered to the nurses was constructed using evidence-based back pain messages prioritized and contextualized in a preliminary study (Nkhata 2021). The aim of the campaign was to change unhelpful and incorrect perceptions of back pain, promote health, increase knowledge about back pain and improve the self-management of participants.

The campaign started with an opening session which lasted about 30 minutes and was organized by the first author. This session was repeated a number of times because only 30 nurses could fit in each group. During the opening session, essential information about the campaign (goal, implementation and targeted results) was conveyed to the nurses in the form of a drama, so that the nurses found the session entertaining (and this also served as motivation for nurses from the four participating hospitals to attend the opening session). Figure 1 shows the campaign process.

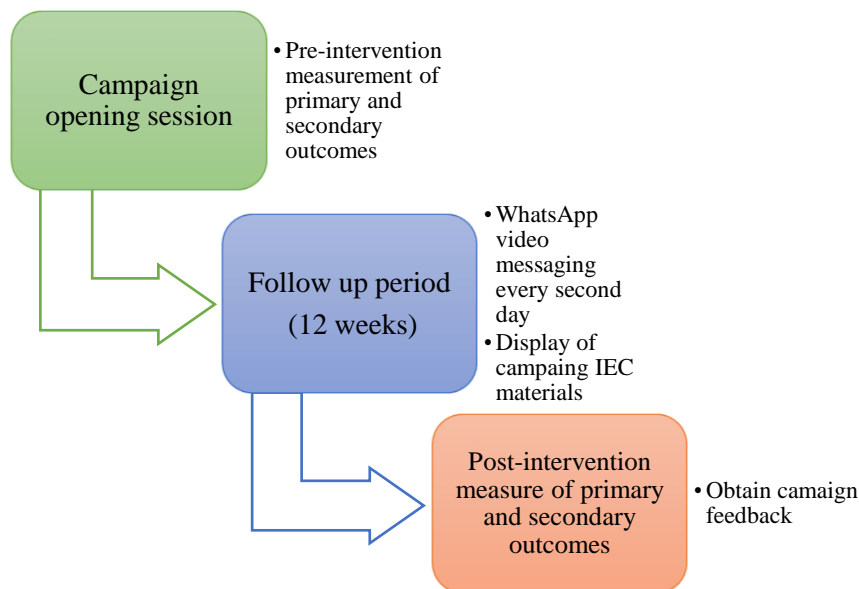


Figure 1 Campaign process

Campaign Memos: The campaign content included evidence-based messages extracted in similar campaigns (Nkhata et al. 2019) and were then cross-culturally validated and prioritized using the Herdman et al. (1997) framework. This framework helped to gain an overview, understand stakeholders' perspectives and experiences and opinions about the synthesized back pain campaign messages and the extent to which they were useful to nurses in Zambia (Nkhata 2021). Messages chosen by nurses for this campaign included:

- Avoid taking unnecessary pain killers when you have back pain, there is a lot you can do to help yourself.
- Back pain is a personal responsibility, and it is up to you to look after your back.
- Back pain is rarely caused by a dangerous illness.
- The key to feeling better sooner is to stay active.
- Surgery is not the answer for back pain.

Posters, mugs, pens, BP machines, and stickers were used to increase the visibility of the back pain messages to nurses in the facilities (Figure 2).



Figure 2 Samples of campaign messaging materials

Data collection and outcome measurements

Measurement time-frames of primary and secondary outcomes were measured at baseline (before) and again at exit after the 12-week campaign ended (week 13 since the campaign had commenced). Demographic data collected included age, gender, education level, work schedule and hours. This was collected using a capture form. Participating nurses completed this form at baseline and the authors completed it after the campaign. The primary outcomes of the study included; nurses beliefs about back pain and participant activation for self-management. Waddell et al., (2007) in a similar campaign assesses and reported beliefs about back pain using a set of self-constructed questions on beliefs about back pain and the Back Beliefs Questionnaire (BBQ). The questionnaire consists of publicly and freely available items of the BBQ and the generic Patient Activation Measure (PAM) which provide insight into beliefs before and after an intervention. Likewise, the impact of the campaign among Zambian nurses, adopted the pragmatic approach to encourage participation and overcome time constraints in completing the outcome scale.

As Zambian nurses prioritized the key campaign messages, the authors were interested in describing campaign outcomes for each unit selected for the study. Although all the original BBQ items were included, binary responses were chosen to facilitate time-saving and simpler administration, coring and data processing (Grassi et al. 2007). A similar approach has been tested and proposed for other health outcomes such as the SF 36 (Grassi et al. 2007). The developers of the grids originally adopted a five-point Likert scale to reduce the confusion (and time required to complete) of rating other tools against which the grid was tested (Symonds et al. 1996). In addition, the BBQ sensitivity was found in only one study, and no significant changes were made to rationally interpret the effects of the interventions (Ferreira and Kamper, 2020). There was no reference in any of the literature to the use of public information in their subjects or their assessment. This weakened the validity of the instrument in that context (Beidas et al. 2015). For these reasons, a descriptive approach was used to collect and describe the results in this study.

The back beliefs and patient activation questionnaire items were piloted with 20 conveniently samples nurses in order to gauge intent and understanding at one of the non-participating public health facilities. Since English is the official language of Zambia, no translation was necessary because every participant had attained tertiary education. Our pilot study's findings showed that participants were able to comprehend the instructions, understand the items on the questionnaire, and follow the flow of statements. Small wording changes were suggested by the participants, such as changing the phrase "back pain needs to be rested" to "one must rest when they have back pain." For the back beliefs questions, the term "back trouble" was changed to "back pain." The term "participant" was substituted for "patient."

Secondary outcomes: The secondary outcomes were self-reported using a custom-designed data capture form and they included: duration of back pain, number of participants who claimed sick leave days for back pain (past 2 months), number of participants who claimed sick leave days in general (past 2 months) and number of doctor visits for back pain (past 2 months). For coping strategies we assessed the percentage of participants who reported using suggested coping strategies (medication, bed rest and exercises) for back pain.

Campaign feedback from nurses who participated in the campaign was obtained using a short feedback questionnaire which included three questions and was collected during the follow-up outcome measurement. The three questions were;

- Were you happy with the back campaign for nurses in Lusaka, Zambia?
- Do you think the campaign had an impact on your back care goals?
- Would you recommend this campaign to other facilities?

Data analysis

Using SPSS version 27, descriptive analysis of the demographic data was conducted, and the Chi-square analysis was used to examine significant differences between the demographics before and after the campaign. For all analyses, the significance level was set at 0.05. The back beliefs and patient activation questionnaire's dichotomous responses were analysed for all of the items using a descriptive analytical approach. This method also enabled comparison of chosen items with campaigns that have been publicly released (Gross et al. 2007; Werner et al. 2007). Chi-square analysis was applied (along with 95% confidence intervals for differences in the proportion of correct answers before and after the campaign) to look for differences in the primary and secondary outcomes before and after the campaign. Using percentages of the total responses, the campaign's feedback was presented in a descriptive manner.

Ethical considerations

Before participating in our study, each participant gave their written, informed consent. Our study, received ethical approval and clearance from Stellenbosch University (project id S18/06/125), the National Health Research Authority, the Lusaka District Health Office, the University of Zambia Health Sciences Research Ethics Committee, and the participating hospitals.

RESULTS

Participants' demographic characteristics

As can be seen in Table 1 statistically significant differences were only found in professional work settings. There were no significant differences in the participants age, gender and work hours, before and after the campaign.

Participants' demographic descriptions		Before (N=327) N (%)	After (N=325) N (%)	p-value
Age in years	18-25	117 (35.7)	125 (38.4)	0.79
	26-35	126 (38.5)	127 (39.0)	
	36-45	75 (22.94)	65 (20.0)	
	46-60	9 (2.5)	8 (2.4)	
Gender	Male	103 (31.5)	102 (31.2)	0.95
	Female	224 (68.5)	224 (68.7)	
Work setting	Medical	118 (36.8)	53 (16.5)	<0.05
	Pediatric health	55 (17.9)	28 (8.7)	
	Theatre	14 (4.3)	41 (12.7)	
	Surgical	6 (1.8)	32 (9.9)	
	Maternity	49 (15.3)	48 (14.9)	
	OPD	62 (19.3)	113 (35.2)	
	Others	16 (5)	6 (1.8)	
Work hours	Mean (SD)	36.31 (11.15)	37.59 (4.38)	0.07
	Median (IQR)	40 (6)	40 (4)	

Table 1: Participants' demographic characteristics

Primary outcomes

Results on back beliefs revealed that six out of the 14 back belief items had undergone significant positive changes. Four of the back belief items, however, had significantly worse scores (Table 2) than the other two. Following the campaign, every question relating to patient activation significantly improved (Table 3).

Table 2: Items on back beliefs (* indicate worse responses after the campaign)

	Correct before campaign. N (%)	Correct after campaign. N= (%)	p-value (95% difference) of	Total responses (included disagreed and no response)
Q1 There is no real treatment for back pain	107 (36.4%)	201 (68.8%)	<0.01 (24% - 39%)	292
Q2 Back pain will eventually stop you from working	118 (37.8%)	97 (31.0%)	0.29 (-1% to 13%)	312
Q3 Back pain means periods of pain for the rest of one's life	221 (70.1%)	175 (55.5%)	<0.01* (7% - 22%)	315
Q4 Doctors cannot do anything about back pain	36 (11.3%)	79 (25%)	<0.01 (2% to 8%)	316
Q5 A bad back should be exercised	242 (79.2%)	205 (66.3%)	0.03* (6% to 19%)	309
Q6 Back pain makes everything worse in life	117 (38.6%)	94 (31.0%)	0.29 (-0.01 to 14%)	303
Q7 Surgery is the most effective way to treat back pain	264 (85.9%)	290 (94.4%)	0.05 (3% - 13%)	307
Q8 Back pain may mean you will end up in a wheelchair	230 (75.1%)	225 (73.5%)	0.87* (-5% -7%)	306
Q9 Alternative treatments are the answer to back pain	196 (63.2%)	124 (40%)	<0.01* (9% - 35%)	310
Q10 Back pain means lengthy periods of time off work	168 (54.5%)	133 (43.1%)	0.08* (4% to 19%)	308
Q11 Medication is the only way to relieve back pain	181 (59.1%)	286 (93.4%)	<0.01 (20% - 27%)	306
Q12 Once you have had back pain there is always a weakness	137 (45.8%)	190 (63.5%)	<0.01 (10% - 25%)	299
Q13 Back pain must be rested	27 (8.7%)	95 (30.9%)	<0.01 (49% - 62%)	307
Q14 Later in life, back pain gets progressively worse	74 (23.6%)	111 (35.4%)	0.68 (-19% to 4%)	313

Table 3: Items on participant activation

	Agreed before campaign n (%)	Agreed after campaign n (%)	P-value (95% CI of difference)	Total responses (Included disagreed/no response)
1. When all is said and done, I am the person who is responsible for managing my back	187 (60.7%)	273 (88.6%)	<0.01 (16% - 39%)	308
2. Taking an active role in my back care is the most important factor in determining my health and ability to function	182 (57.9%)	279 (88.8%)	<0.01 (19% - 42%)	314
3. I am confident that I can take actions that will help me prevent or minimise some symptoms or problem associated with back pain	185 (59.6%)	281 (90.6%)	<0.01 (19% - 43%)	310
4. I am confident that I can tell when I need to get medical care and when I can handle back pain myself	160 (53.6%)	268 (89.9%)	<0.01 (24% - 47%)	298
5. I am confident that I can follow through on medical advice and treatment I need to do at home for back pain	193 (63.2%)	239 (78.3%)	0.02 (2% - 27%)	305
6. I understand the nature and causes of back pain	136 (45.9%)	266 (89.8%)	<0.01 (32% - 55%)	296
7. I know the different treatment options available for back pain	116 (40.9%)	243 (85.8%)	<0.01 (33% - 56%)	283
8. I have been able to maintain the lifestyle changes for back pain that I have made	127 (43.4%)	247 (84.5%)	0.01 (35% to 58%)	292
9. I know how to prevent further problems with back pain	120 (42.1%)	254 (89.1%)	<0.01 40% - 53%	285
10. I am confident I can figure out solutions when problems with back pain arise	132 (46.3%)	263 (92.2%)	<0.01 (34% - 57%)	285
11. I am confident that I can maintain lifestyle changes like diet and exercise even during the times of back pain	132 (44.7%)	259 (87.7%)	0.01 (31% - 54%)	295

Secondary outcomes

Except for the number of participants who claimed sick leave days, all secondary outcomes (Table 4) relating to the duration of back pain, sick leave, and doctor visits for back pain significantly improved. Although there were encouraging trends in the use of "bed rest" and "exercises," these outcomes were not significantly different after the campaign (Table 5). Participants also used significantly less pain medication.

Table 4: Participants' back pain history, sick leave days and frequency of doctor visits the during intervention period

Participants' back pain history		Before n (%)	After n (%)	p-value
Typical duration of back pain	1-3 days	109 (53.7)	124 (91.8)	p<0.01
	4-7 days	70 (34.15)	11 (8.0)	
	More 2 weeks	26 (12.68)	1 (0.74)	
Participants that claimed sick leave due to back pain	Total participants	84 (34.0)	59 (21.5)	p<0.01
Participants who claimed sick-leave days	1-3 days	124 (91.8)	75 (23.7)	p=0.26
	4 to 7 days	12(8.0)	5 (3.7)	
	More than a week	1 (0.74)	2 (2.5)	
Mean number of doctor visits for back pain	Mean (SD)	1.71 (0.96)	0.46 (0.67)	p <0.001

Table 5: Coping strategies for participants

Coping strategies for back pain	Before n (%)	After n (%)	p-value (95% CI)
Number of participants who used pain medication	267 (81.6%)	126 (38.7%)	0.01* (30% - 55%)
Number of participants who used rest for back pain	117 (35.9%)	85 (26.2%)	0.16 (-3% -21%)
Number of participants who exercised or used physiotherapy	87 (26.5%)	111 (34.2%)	0.21 (-20% - 4%)

Feedback on campaign

The back pain campaign for nurses in Zambia received positive feedback from almost all participants, as shown in Table 6 of the campaign evaluation. Majority of the participants also stated that the campaign had an impact on their goals for back care and suggested that other medical facilities be informed about the campaign's initiatives.

Table 6: Campaign feedback

Feedback question	Yes (%)	No (%)	Total
Were you happy with the back campaign for nurses in Lusaka, Zambia?	312 (96.30%)	12 (3.7%)	324
Do you think the campaign had an impact on you back care goals?	313 (95.9%)	11 (4.1%)	324
Would you recommend this campaign to other facilities?	304 (99.3%)	2 (0.65%)	306

DISCUSSION

The current digital transformation is a major issue in our modern society and has a significant impact on the healthcare (Harren et al., 2018). We evaluated how well a technological advancement on WhatsApp communication could encourage nurses with back pain to practice good health habits. Since digital social media tools plays significant part in our daily lives, communication has undergone a significant change (Wong et al., 2022). Despite the controversy surrounding their application to medical education, they are established at medical conferences and as mediums for information exchange and the merits of improvement in the quality of care provided. In the first back pain campaign using WhatsApp messaging among nursing professionals in a low- and middle-income setting in Africa, the main conclusions are that the 12-week campaign for nurses in Zambia empowered the participants to manage their own back pain. A positive change was indicated by less than half of the back belief items, and these were consistent with the campaign messages delivered via WhatsApp. The increased knowledge resulted in alterations in self-management beliefs and confidence, which reduced the need for medical attention for back pain. Positive shifts occurred in attitudes toward the function of doctors, the use of drugs and surgery, and the contribution of physical activity to back pain. Participants' opinions on the prognosis of back pain, the importance of exercise, and alternative back pain treatment methods varied. The results may be explained by the fact that the six main campaign messages were not as focused on messages about prognosis, exercise, and alternative management approaches as they were on the role of medical management and rest versus physical activity. Although this campaign had the same number of messages as other campaigns that had been published, it is suggested that future campaigns of this kind consider alternating messages over a longer period of time to address all aspects of beliefs. Additionally, context job-related factors such as, long hours of work and participants prior experiences with back pain may be used to illuminate the findings on participants' mixed beliefs (Nkhata, 2021). In contrast to the idea that exercising when you have back pain, participants may have been used to taking time off and resting when experiencing back pain. Understanding nurses' prior experiences with back pain and how to manage it, as well as their dietary habits and education regarding back pain, may therefore be essential to changing their beliefs. Hence, future campaigns should develop strategies that take into account the context of the target audience.

Changes in beliefs are thought to be a major result of back pain campaigns and may help with self-management behaviours. The ability to self-manage can be assessed by a decrease in healthcare use, such as a drop in the number of doctor visits and sick days, as well as back pain coping mechanisms (McBain, Shipley, & Newman, 2015). Our findings point to a significant improvement in self-management behaviours, as evidenced by a decrease in the number of sick days taken, doctor visits, prescription drug use, and sick days themselves. Regarding exercise for back pain, in line with the results of the back beliefs question (Table 2, Q5), the participants stated that they did not significantly increase or decrease their level of exercise. As a result, despite the fact that their beliefs about rest for back pain significantly changed (Table 2, Q13), their coping strategy remained the same. Our study's conclusions regarding the use of healthcare are consistent with research done in Scotland and Australia (Werner et al. 2007; Buchbinder et al. 2008). The aforementioned research on healthcare utilization is significant for low-resource countries like Zambia, where healthcare budgets are frequently constrained by financial issues. The findings suggests that more nurses continued to work despite having back pain because they may have felt prepared to manage it on their own. This finding is encouraging because it suggests less strain on the already overworked health system.

Our study's findings are encouraging when compared to those of other countries' that concentrated on media campaigns for back pain. Although the Canadian campaign (Gross et al., 2010) found a positive trend regarding BBQ, the results were not statistically significant for the campaign's overall impact. Additionally, for nursing students who took part in the campaign, Gross et al. (2010) found no appreciable changes in the BBQ's overall score on particular items. According to Buchbinder et al. (2001; 2008), the Australian back pain campaign was successful in changing the attitudes, beliefs, health risk behaviours, and absence due to illness in one state. In the Scottish campaign (Waddell et al., 2007), people's attitudes toward exercise significantly changed, and their attitudes toward rest have also changed. Similarly, Werner et al. (2008) discovered modest improvements in the population's beliefs, specifically their beliefs about the use of X-rays and their ability to return to work. However, there was no discernible change in the general public's illness behaviours or beliefs. Werner et al. (2008) observed a slight but significant shift in attitudes towards more helpful self-coping behaviours. The aforementioned results show that, despite the fact that back pain campaign results vary, these campaigns are effective at influencing certain beliefs and attitudes toward back care objectives and at encouraging healthy behaviours in various populations. Campaign outcomes appear to be influenced by the key messages' focus, the campaign's timeframe, budget, and scope (Buchbinder et al. 2008).

Strengths and Limitations

Based on evidence from prior back campaign messages and context-specific data, our study was designed (Nkhata et al., 2019) and the campaign received overwhelmingly positive feedback. Participation of stakeholders and potential end users in the design implementation strengthened the strategy and produced creative ways especially the use of WhatsApp messaging to disseminate the campaign messages. The positive feedback may have also been influenced by nursing professionals' involvement in the campaign's design, cross-cultural validation of the back pain messages for comprehension, and face-to-face interactions with the participants. While earlier research concentrated on the effects of back pain beliefs, we also took into account the effects of self-management activation and coping mechanisms. Future educational interventions for back pain may benefit from the information presented above. Throughout the duration of the intervention, campaign materials were repeatedly put on display. Future campaigns must take this into account as it has a significant impact on how long the effect lasts and motivates participant activation for self-management.

Response bias might have occurred as a result of the use of self-administered questionnaires. Since the questions were related to campaign messages, participants might have answered some of them in a way that was socially acceptable. Additionally, participants might have exaggerated or omitted their experiences with back pain, which could have introduced recall and report biases. The questionnaire used in this study was created using BBQ items and PAM items that were made publicly available, and it was only evaluated for intent hence reliability studies are recommended in future studies. We didn't use the instrument's overall scores when analyzing the data. However, it was advantageous to examine each item on the BBQ separately because this gave clearer indications of how the various campaign messages had an impact. It's also critical to remember that the campaign was restricted to level-one hospitals in Lusaka and that the information was based on participant reports, some of which may have been tailored to their particular work environments. Although similar circumstances may arise in other settings, the recommendations from this study may only be applied to contexts with similar characteristics. Nevertheless, this research offers new perspectives on the creation and suitability of research evidence in settings with limited resources.

CONCLUSION

The 12-week back pain campaign using WhatsApp messaging encouraged participants to take control of their own pain management through the use of contextualized, evidence-based back pain messages for Zambian nurses. Some of the back beliefs were significantly altered as a result of the campaign, though not all of the back beliefs underwent positive change. The use of painkillers and healthcare services for back pain decreased as a result of the increased knowledge about back pain and the resulting changes in beliefs and abilities to self-manage. Positive trends in the increased use of coping mechanisms were present, but these changes were not substantial. According to the research, improving knowledge, behaviors, and beliefs about back pain in African settings is a promising strategy. Further studies are needed to provide guidance on the campaign's most pertinent outcomes for the local context, their duration and sustainability, and whether their findings can be applied to the majority of Zambians.

Acknowledgements

The thesis, titled "The effect of a back pain campaign on back beliefs, coping strategies and participant activation for nurses in Lusaka, Zambia," was submitted to Stellenbosch University in partial fulfilment of the requirements for the degree Doctor of Philosophy in Physiotherapy - Musculoskeletal Disorders. Prof. Quinette Louw, Dr. Yolandi Brink, and Prof. Dawn Ernstzen are the supervisors. The author's thesis explains the overlap. Please see the following link: scholar.sun.ac.za/bitstream/handle/10019.1/110040/nkhata_pain_2021.pdf?sequence=1&isAllowed=y

Competing interest

The authors affirm that neither their financial nor interpersonal connections could have unintentionally influenced their writing of this article.

Author contributions

All authors contributed to the completion of this work. The article's initial draft was designed and written by L.A.N. and Q.A.L. The analysis of our study was conceptualized and planned by Y.B., D.E., and H.M. The final text was read by all authors and got their approval.

Funding

The National Research Foundation (NRF) (reference number: 105219) in South Africa provided financial support and sponsorship, but they had no input into the design of our study, data collection, analysis, manuscript preparation, or decision to publish as funders.

Data availability

The study's supporting data are available upon request from the study's corresponding author, L.A.N. Because of information that might jeopardize the privacy of research participants, the data are not publicly available.

Disclaimer

The views and opinions presented in this piece are the authors' own, and they may not represent the official stance of any organization to which they are connected.

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